BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

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IN THE MATTER OF: : Docket Number

REGIONAL TRANSMISSION ORGANIZATIONS : RM01-12-000

ELECTRICITY MARKET DESIGN AND STRUCTURE :

- -x

Commission Room 2C

Federal Energy Regulatory

Commission

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Washington, D.C.

Friday, October 19, 2001

The above-entitled matter came on for workshop, pursuant to notice, at 10:10 a.m., Shelton Cannon, Moderator, presiding.

BEFORE COMMISSIONERS:

CHAIRMAN PAT WOOD, III

COMMISSIONER LINDA KEY BREATHITT

COMMISSIONER NORA MEAD BROWNELL

COMMISSIONER WILLIAM L. MASSEY

APPEARANCES:

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Miller Chair in Government
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University of Southern California

HONORABLE ROBERT NELSON
Commissioner
Michigan Public Service Commission

MARJI PHILIPS
Exelon Power Team

SONNY POPOWSKY
The Consumer Advocate
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CRAIG R. ROACH
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APPEARANCES (CONTINUED):

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P R O C E E D I N G S

(10:10 a.m.)

CHAIRMAN WOOD: Let's stand and start with the Pledge of Allegiance, please.

(Pledge of Allegiance recited.)

CHAIRMAN WOOD: All right. Day Five. Final day of the boot camp. And I will say we saved probably one of the more interesting topics for last and some wonderful panelists. So without any further ado, but I do have to make one announcement. Commissioner Massey had a prior engagement that he absolutely could not wiggle out of, but we are getting a tape for him, because he is extremely interested in this panel and want to let you all know that he sends his regrets but will be back this afternoon.

So, Shelton?

MR. CANNON: Good morning and welcome to Day Five. We're all sort of reeling a little bit from all that we've learned and heard this week. But the sessions have been really good. I think we've advanced the debate a lot and I'm again encouraged with how much I think the debate has matured.

We've gone the whole gamut this week from talking about markets and market design on Monday, into congestion management, transmission rights, planning and expansion on Tuesday. We got into issues of standardization on the next

couple of days, both on the tariff standardization as well as what do we do with regard to business practices.

We had a great meeting yesterday with the state commissioners. I know it's a lot of headlines and that type of thing. But nonetheless, I think the air was cleared. A lot of people put some frustrations on the table, both frustrations on the part of the state commissioners in terms of wanting more process, and frustrations I think on the part of this Commission of trying to advance the ball and let's get things moving.

The Chairman is right. I think today is going to be one of the most interesting, and I'm looking forward to it. This morning we're going to spend some time trying to talk through issues regarding market monitoring and then this afternoon talk about exactly how we go about mitigating market power. So we sort of have saved the best for last, and we have a great panel with us this morning to try to work through some of these issues.

With us this morning we've got Charles Cicchetti, who is with the University of Southern California, the Miller Chair in Government, Business and the Economy. Welcome. The Honorable Robert Nelson, Commissioner with the Michigan Public Service Commission. Margi Philips, part of Exelon Power Team. Sonny Popowsky, Consumer Advocate with the Pennsylvania Office of the Consumer Advocate. Welcome.

Craig Roach, who is a Principal with Boston Pacific Company, and Anjali Sheffrin, the Director of Market Analysis with the California ISO.

So we obviously have quite a diverse group here and I'm looking forward to the discussion. What I'd like to do is keep the opening presentations as short as we can so we can try to really get into the issues and have a conversation and a dialogue around those. But to get us started, I'd like to have Ginny Strasser from our Staff kind of frame some of the issues and questions we'd like to get into and explore today. So with that, Ginny?

MS. STRASSER: Good morning. Thank you all for being here. In an ideal world perhaps if we get all of the RTO structure right and all of the market design rules right, we don't need to worry to much about market monitoring and mitigation. I guess we all know we don't live in an ideal world. And so this is a very important topic to look at.

And Staff has thought about what we would like to know from you, and we have some questions that really go to what are the appropriate roles of an RTO, and especially its market monitoring unit, in overseeing how the market is working. And we would like to explore with you not only what is the RTO market monitoring responsibilities, but also how FERC's role in supervising those responsibilities should

be carried out, what should be the relationship between those market monitoring units and FERC as well as state government agencies and other entities that are interested in overseeing your activities.

And we want to explore not only the independents, how independent those market monitoring units ought to be, but also whether the RTO should be able to levy penalties or should these be referred to the Commission.

We also are interested in information sharing, how much information would the RTO market monitoring unit be collecting in order to do its job well? How much of that information would it look to share with the FERC as well as with state government agencies? What are the confidentiality considerations that need to be addressed in that regard?

And I guess implicit in all of that is how should the market monitoring unit be organized and operated? How independent should it be from the RTO? And should it in fact have the authority to audit the operation of the RTO? So this is a broad scope of questions, and it's only a sample to get the conversation going, but to give you the gist of what we would like to hear discussed this morning. Thank you.

MR. CANNON: Thanks, Ginny. And with that, let's start with the opening statements. Do you want to start us

off here, Professor Cicchetti?

PROF. CICCHETTI: Sure. Good morning, everybody. I'm not 100 percent sure even after hearing the explanation of what you're looking for, the best set of ideas to put forward for the Commission and for Staff in terms of thinking about this. But it is a subject, that is, monitoring is a subject that I studied when I was doing my audit for the state of California on the ISO and the Power Exchange and whether the market monitoring functions that were in place were working and had worked successfully.

And I think probably the most important thing that I learned from that experience was there was all sorts of information being collected and analyzed by both the Power Exchange and the ISO in California. Some of it was being done by some outstanding academic economists who were quite independent from both of those entities. Some of it was being done by the staffs of those entities.

The information was passed on to the ISO management, and then ultimately to the ISO board. But quite frankly, nobody knew what to do with the information. It was almost as though we had a policing function without a prosecutor and a jury. And that was probably the most startling observation that I could come away with.

So I think one of the threshold questions that the Commission has to think when they address the issue of

monitoring and RTOs elsewhere is to ask the question, what is the function of this entity, this market monitoring unit? Is it to gather information, collect the information and then make it available? And if the answer to those questions is yes, and I suspect that it probably is, then the question is, who do they make it available to and what do the people get who get that information, what are they supposed to do with it?

The second idea that I think is relevant to this whole question is what market are you monitoring? In the California context, if you were monitoring just the electricity market and not following natural gas or NOX, you probably would have missed the causes that might have been pushing prices high. You would probably have missed understanding what the relationships were across three markets that were in effect for three different commodities: NOX, natural gas and electricity.

You certainly would have learned if you were following that situation that the shift between the Power Exchange into the ISO real time market was outside the bounds anybody expected. People knew that. People understood it. Recommendations were made to solve it.

I don't know whether it was the equivalent of the deer caught in the headlights or what, but essentially, there wasn't any action taken of the kind that could have

brought some relief, could have understood that there were flaws in the design. It's almost as though the laws or the rules of the game needed to be fixed, and the market monitoring function identified problems that said the system's being gamed. The rules need to be adjusted. But in real time, it's very difficult to do that. It's very much like when a policeman pulls you over. It doesn't necessarily result in you being sentenced or you being prosecuted at that moment.

And so we have this monitoring function, and I think a lot of it is a political response against a fear of potentially high prices. And second, it's about creating a record and an information basis. If after the fact there might be refunds and there might other kinds of mechanisms that would be put in place. But I think it's asking too much to think that this monitoring function will bring about change in real time. At least the experience that we had in California suggestion to me that that kind of change will only come after all parties have a chance to express their views in an adversarial proceeding, regulators can make the changes that need to be made. Maybe even legislation has to be changed.

But the monitoring function worked very well in California, but nobody knew what to do with the information is my short version of the story. And I think that's

something that you need to address and think about. Thank you.

MR. CANNON: Thank you. Commissioner Nelson?

MR. NELSON: Thank you. And it's a privilege to be here with this panel of luminaries. I fear I may be overshadowed by some of their bright lights here. But I do intend to address the state perspective of market monitoring. And in that regard, I want to commend this Commission for its commitment to a state and federal partnership in the development of competitive markets. This commitment is not only evidenced by the workshops held this week, but it's been demonstrated in the Midwest in the negotiations we've had on RTOs, and particular with regard to market monitoring plans.

As Commissioner Svanda indicated earlier in his testimony this week, the Midwestern state commissions support a formalized process and a partnership with the FERC to address issues that need continuing attention on a going forward basis, and market monitoring is surely one of those issues.

I believe it's quite possible to develop a co-enforcement plan with the FERC, the market monitor and the state commissions similar to what is being done right now with the FCC in slamming that we developed about a year ago with them. I won't go through all of the detail in my

comments because they've been electronically filed, but I want to hit a couple of key issues. One is independence and the other is access to information.

I believe that without a strong and independent market monitor and a strong state-federal partnership working with that market monitor, a fully functioning competitive market in electricity is a pipe dream. And I believe it's important to codify the essentials of the independents in your rulemaking. You have to have an explicit delineation of unfettered to investigate issues and communicate the findings of the market monitor to appropriate enforcement agencies, including this Commission, the state commissions, DOJ and others as well.

The ability to share this information is particularly important I think with regard to ITCs. ITCs, while independent of other market participants, may have an inherent bias to favor transmission solutions to congestion as opposed to alternative solutions such as DG and DSM.

Moreover, to the extent that an ITC controls both transmission assets that it owns and it doesn't own, it may be interested in which transmission facilities are indeed built. If favoritism is uncovered in either of these areas by the market monitor, that should be reported forthwith. And the rulemaking I think should encompass this ability.

I've detailed in my testimony, and I won't go

through here all the responsibilities that I think the market monitor should have, but I think they should be forward looking. They should look at structural changes. They should look at all sorts of things beyond just the day ahead markets. And if we analogize market monitoring to the troops in the field on the battle for competitive markets, the mere reporting of massive enemy action will not always be enough to do the job. I submit that a market monitor should be empowered to institute market mitigation measures, including the issuance of cease-and-desist orders and indeed the auditing that was spoken of earlier.

With regard to access to information, I think that is a very critical area that must be pursued. The market monitor should have unfettered access to production costs, opportunity costs and others detailed in my testimony. This should be detailed in rulemaking as well. And this access to information should be standardized across RTOs to ensure consistent monitoring of markets within and over the seams. I believe that standardized data will greatly assist the job of the market monitor.

Among the items that state commissions must have access to are the contracts between the RTO and the market monitor. There should be no reason that, subject to the redaction of confidential material, the state should not know the details of the employment arrangement between the

market monitor and the RTO. And a codification of state commission access to that information as well as other information should be done, and this will go a long way to solidifying the free flow of information required for successful monitoring of retail and wholesale markets.

In sum, I want to firmly reiterate the importance of market monitoring as a critical element to successful RTO development. The state commissions in the Midwest believe that the FERC can take an important step to foster competitive markets through RTOs by enacting rules that codify these principles fundamental to the effective market monitoring program.

We stand committed and prepared to work cooperatively with the FERC to ensure that the Midwest regional planning grants the market monitor the necessary independence to investigate and report issues and problems, provide this Commission and all state regulatory agencies with full access to all of that information, and empowers the market monitor with appropriate enforcement authority to address issues requiring immediate mitigation action.

I want to close by paraphrasing Shakespeare. With regard to some of my colleagues that have spoken earlier this week that maybe we should go slow in this process, I believe that the RTO policy is indeed an enterprise of great pith and moment. It is not to be

sicklied over with the pale cast of thought. Its current are strong. They should not be turned awry or will lose the name of action.

Thank you.

MR. CANNON: Thank you, Commissioner. And Marji, if you could put all of your comments in iambic pentameter, we would appreciate it.

(Laughter.)

MS. PHILIPS: You give me too much credit. Hi, I'm Marji Philips. I'm here on behalf of Exelon Generation. I'm part of the Power Team, which is their marketing division. WE own and operate about 37,000 megawatts. And I notice that I am the only guilty party, so to speak, in front of you.

Usually I'm asked to speak -- and by that I mean in terms of being the only generator on the panel. Usually I'm asked to participate in panels because all the policy wonks and lawyers need someone who's in the trenches, and that's me. When I accepted this opportunity to speak on behalf of you, little did I know how much unwanted and unwarranted expertise I would gain in the two weeks before I sit here.

So, I come here with some very constructive criticisms on the process and would like to offer the following remarks. Surprisingly, we think a market

monitoring unit is critical to the success of the market. It puts confidence in consumers, in the competitors, in the investors and the regulators. And we don't have that confidence right now and we need it.

That said, the market monitoring unit is not supposed to interfere with the market to make sure that the lowest cost is produced in every hour. And the discussions I've heard, and they're already going there, sort of always start with the presumption that the suppliers are guilty and we have to penalize them. And that's very troubling. Because if I use the vernacular I heard earlier about prosecution and jury, we're going to have to be prosecuting God. Because God, or at least whatever we want to call it, is the one that causes the droughts in the Pacific Northwest, the tornadoes that took out the nukes in the Midwest in '98, and all of this plays onto a market, and the marketers respond to that. And you can't continually look to say that their response is inappropriate if you don't look at the whole picture.

And in fact, I would suggest California is a great example. As early as 1998, people were saying there's going to be a major drought and the structures are not going to work. And we didn't have any way to respond to that, so we sort of just strolled down this path into disaster.

My concern is, in today's political climate, this

is how I see the Midwest 1998 situation playing out. For those of you who remember, we were one of the few people that hit the road in February and March to warn everybody there was going to be a severe shortage that summer. We had seen it, and we were very concerned that the marketers were going to get blamed for it. You can go back and see all the press we did, there's going to be problems.

Sure enough, tornado took out nuke. We had lots of outages and we had heat in all of the control areas. And I can see how that would play out today. The market monitoring unit says oh, my God. Holy Cannolies. They're bidding $6,000 megawatts an hour. Quick, remediate it. Mitigate it down to $64 bucks. That's what the marginal cost is of this one unit. Well, what would have happened? And I believe that would have happened in today's climate and you wouldn't have had the response that we had, which is to have massive investment in the Midwest. So you have to be very careful about what you see is the purpose of the market monitoring unit.

We would suggest its purpose is to audit both the RTO and the participants to make sure the market is being run in a nondiscriminatory way, efficiently, and to also be part of the creative solution. How do we get better markets? You know, we're looking at Blackstar markets. The market monitoring role can be to try and get us, move us

along. I would like to think that it doesn't have to be a policeman and that it's a positive role and that if we do get standard market designs and if they work, that will be the role of the market monitoring unit.

I could go on but I'll just wait and participate in the discussion. So thank you.

MR. CANNON: Thanks, Marji. Sonny?

MR. POPOWSKY: Thank you very much, Commissioners. My name is Sonny Popowsky. I'm the Consumer Advocate of Pennsylvania. I'm also a former president of the National Association of State Utility Consumer Advocates, or NASUCA.

Since you've invited me here to talk about markets, I wanted to start out with a disclaimer. That is, I should warn you that the extent of my economics training consists of one semester of microeconomics and one semester of macroeconomics in my freshman year in college, and that was a little more than 30 years ago. So you can take any of my economic advice with that grain of salt in mind.

On the other hand, having represented utility consumers for the last 22 years, I can say without hesitation that the issue of market monitoring that we're here to discuss this morning is of absolutely critical importance to electric consumers. I guess my basic point is that under the Federal Power Act and most state public

utility codes, electric rates are still supposed to be just and reasonable.

The authority to charge market-based rates is not a license to charge extortionate rates for a vital, essential service. And perfectly competitive markets don't spring full grown from the pages of FERC orders like Athena from the forehead of Zeus.

(Laughter.)

MR. POPOWSKY: Okay. Anyway. I was an English major also. I think Professor Nelson's --

(Laughter.)

MR. POWOWSKY: I think these markets must be carefully monitored both by this Commission and by the hopefully independent regional transmission organizations that you are trying to create. And the rules in those markets must be enforced initially at the RTO level and ultimately by this Commission.

Market monitoring as I see it is needed for two purposes. One is to find out who is violating the rules of the game. But equally or perhaps more important, market monitoring is necessary to make sure that the rules of the game are working and that they are producing truly competitive results. If the market cannot produce truly competitive rates that are just and reasonable, then I think you have to return to cost-based rates.

Fortunately, where I come from in the PJM region, I think we have a market that's worth monitoring. The market structure seems to make sense, and when things go wrong, it's noticeable and therefore more susceptible to diagnosis by the PJM market monitor or by this Commission.

So I would stop at this point just to summarize that I think if you start with a reasonable market structure with a truly independent system operator, then I think rigorous market monitoring can be a critical component that helps ensure that consumers will actually benefit from just and reasonable competitive rates. If you have a poor market structure, then I think the best that a market monitor can do is to provide you with a catalogue so to speak of market failures.

I look forward to our discussion this morning and I thank you again for inviting me to be here.

MR. CANNON: Thank you. Mr. Roach?

MR. ROACH: Good morning, everyone. Just so you know where I'm coming from, let me tell you that Boston Pacific is a consulting firm. I spend my time doing two things. One is serving as a financial advisor to clients that are building or acquiring power plants and other assets, and the second thing is I spend a lot of time as an expert witness, a lot of that on market power issues. I've spent many enjoyable hours with all of the methods to

measure market power, hub and spoke, delivered price test, market modeling.

I appreciate being invited here today. I have four comments that I'd raise, and then if they're of interest, I'd be happy to go into detail. These all have to do with what a market monitor should do and how they should do it.

The first point is that I think a market monitor has to look at more than market power. It's important that they be looking market conditions and market rules. I'm really concerned that if the market monitor only uses that antitrust lens that that market monitor will miss the point. They will have their attention diverted from the real problems in the marketplace.

If I could have a market monitor do anything, I would have them do what Marji said she just did in the spring of 1998, and that is serve as an early warning system for capacity shortages. I think early warning is a key word. I think that's what market monitors should do.

If I could standardize what market monitors tell you or use as a diagnostic tool to tell you whether a market is healthy, I would have them put their stethoscope to new entry. How is new entry doing? Is that healthy. New entry is how we're going to keep the lights on, it's how we're going to keep prices stable, and it's the vehicle for

innovation.

And I think they should be free to look at the full range of issues that affect new entry: Environmental permitting, all the way up to a problem today which is raising capital. How are stock prices doing for independent power producers?

The second of my four points is concerns about the way to measure market power. I think all of us are a little too hopeful about finding the perfect quantification of market power. Every method we use and every method we will use will have shortcomings. I think my biggest concern with methods that I see proposed and now used is that they fail to distinguish between the exercise of market power and shortages. We just fail to do that.

I think none of the methods have been used to directly measure market power. They are all indirect indicators that market power might be exercised. Market modeling is the possible exception, but no one has used it that way. And I think all of these methods can lead to what I'll call policy perversions. If we just follow the numbers, it's going to make us do things that as policymakers or policy thinkers we don't want to do, we don't think are right. So we always have to lead with policy, not with the numbers.

Third point concerns process of market

monitoring, and there are a lot of people here better on this than I am. But just a few quick points. Should the market monitor be independent of the RTO? Yes. And one of the reasons is that I think that what the RTO is doing with transmission is one of the things a market monitor should look at.

I think there should be due process with market monitoring. If there's an allegation made against a party, that party needs a chance to respond. And so that means the information that the market monitor uses, the methods have to be transparent. And as far as confidentiality goes, it's very, very important. But this Commission deals with it all the time. I've been in a number of proceedings where information is handled through some agreement.

And as far as enforcement goes, I don't think the market monitoring unit should have the ability to penalize or prosecute in any sense. I think that they should recommend to you. They should make recommendations on actions that you may or may not take.

And finally, number four, how do you go about deciding what that market monitoring unit should look like? I think you should step back and say, look, I've got this big staff. I've got all these people who give me pages of wisdom. What don't I have? What piece of the information puzzle do I not have? And then have the market monitoring

unit provide that to you. There's lots of precedents, even in Washington. You know, why did CBO get created? Why is the GAO there for the Congress? What do you want? That kind of -- how can we help you make better decisions?

Thank you very much.

MR. CANNON: Thank you. Anjali?

MS. SHEFFRIN: Good morning. I appreciate the opportunity to speak with you this morning and present my views on the critical elements which are necessary to have effective market monitoring. And my views come from monitoring the California energy markets for the last three-and-half years and writing countless reports to you on market performance and market power problems.

As regional RTOs are formed they'll face a number of challenges, not the least of which is having confidence in the markets that the RTO runs. I think that's a very critical item. We all have a common goal -- marketers, generators, consumers -- to see that markets perform well. What I'd like to do is recommend five important steps. I call them five easy steps that the Commission needs to take in order to improve market monitoring and give confidence that the outcomes will be just and reasonable from the markets that RTOs run.

Let me just briefly summarize the critical actions which need to be taken by the Commission.

First, the Commission needs to set a clear standard for just and reasonable rates. Currently there's no clear means of measuring when markets are producing just and reasonable prices. What I do in my written comments is offer you two easy methods that you can use. And it does not depend on your having to decide whether any one hour is a shortage or a market power problem. It's simple. Take 12 rolling months' costs, market costs, and compare that to a benchmark. You can have the benchmark be cost of service plus 20 percent, because the reason we're deregulating is we want to see the benefits of competition. That certainly should give us lower costs than the cost-of-service regime. So just use that as your standard.

Or if you want to use some other benchmark, what I propose to you is use a competitive benchmark. We want markets to be competitive. Have that benchmark. Check your total market costs on a 12-month basis to that. When it exceeds a threshold, say, competitive benchmark plus 10 percent, then you would automatically act. That would give confidence to all market participants that what action you take isn't arbitrary. It's been set up on a prospective basis. It's an easy thing to account for. One little price spike is not going to move you to action.

I did the accounting of what that index would mean for California, and for the first two years, that index

came out to be 7 percent, even though we had occasional price spikes as high as $9,999. So a 12-month average of market costs really helps average all that out but then sets specific threshold at which you would act.

Market participants then could use that in their own planning. Consumers would have confidence that they know exactly when you would come in and intervene into a market.

Secondly, producers would also have that information and may use that to self-regulate themselves. It would be a self-policing mechanism. They may say, wow, the threshold is going to be close to being hit. We don't want it to be surpassed, so we're going to do self-regulation on our own.

All of those things will come about if you set a clear standard for just and reasonable rates and prices out of these markets and it's a 12-month rolling average. That's my recommendation to you. So that one item will help tremendously in giving confidence to market outcomes.

Second important thing for the Commission to do is give more effective tools and authority to the market monitors. As Professor Cicchetti said, we spent a lot of time looking at lot of indices. We had more data than you would know what to do with. It accounted for all of the things that the panelists have mentioned. We monitored

hydro conditions, gas prices, emissions, all of that. But for what? We couldn't do anything. The bleeding went on for months and months and no action. I think that destroyed a tremendous amount of confidence, and I think it raises the bar in terms of what you have to do in market monitoring to gain that confidence back.

The third thing you need to do is overhaul the criteria for granting market-based rate authority to sellers. And again I offer you some very easy indices from my experience that you can apply. Right now 20 percent market share gives you no idea of whether a seller can influence the market price. That's very inadequate in power markets that change, you know, minute by minute, whether generation is online, whether a transmission line goes down. And so the same 20 percent market share when you have low demand and lots of transmission available, you know, isn't a problem. But as low as 5 percent market share can create a problem.

So again, I offer you a very simple index that we've developed called a Residual Supply Index. It can be calculated. It can be projected to give you an idea on a prospective basis of whether a seller in a certain market may have problems and can, again, raise prices above a threshold.

The fourth area is improve federal and state

coordination. Because there are many actions that are in the arena of state regulators that impact wholesale market performance, how retail rates are done, what's done with demand-side responsiveness. All of those tend to be retail issues, and yet they're critical to how a wholesale market will perform. So I urge you to have much better informal coordination between state actions and federal actions to ensure that market outcomes are just and reasonable.

And fifth, what's very important is for you to ensure that there is adequate supply to get competitive market results. I think you have something for having a capacity requirement. What we found is adequate reserve margin is probably the one most important indicator of whether you'll have competitive outcomes or not. When they're around 15 percent, suppliers don't tend to be pivotal and you do get competitive outcomes. When reserve margins get small, regardless of the market design -- and what I've done in my written comments is shown you -- as soon as reserve margins get small, whether it be in PJM, in Ontario, anywhere, not just California, you get price spikes. And so to the extent that load can protect itself ahead of time, identify where it's going to meet its needs, then a few price spikes isn't going to have the consequences that it did in California.

So I recommend to you you'd look at those four or

five things and seriously consider them. They're not difficult. They're not rocket science. But they will give confidence to all market participants that markets will yield just and reasonable prices.

MR. CANNON: Thank you. Let's open it up to questions. Bill?

MR. BOOTH: Good morning. This panel is about the role of RTOs in market monitoring, and I wanted to start this morning with a sort of a threshold question about that role.

Recently we had some market participants from Texas come up and talk to the Commission, Commission Staff. And these were some people who were instrumental in making the ERCOT ISO happen. And one of the things that they told us was that independence of the market monitoring function was critical, from their perspective, and so critical that the way they solved that was to not have a market monitoring function in the ISO, to have it in the Public Utility Commission of Texas.

And I wanted to sort of get your reaction to the thought of, you know, perhaps this Commission adopting that sort of policy for all RTOs.

PROF. CICCHETTI: I'll answer that if nobody else will. I don't think it should be in the Public Utility Commission. I think the notion of state commissions

essentially having oversight over wholesale power markets is absurd. I think that state commissions should focus on the performance of the utilities they regulate, which means that they should probably investigate whether or not a utility in their state is buying power in the wholesale power market efficiently or just and reasonably or any standard the state commission wants to adopt; whether they should have self-billed or whether they should have approval of purchase power agreements if they want to have long-term positions taken in physical forward markets for electricity.

But I think the idea of regulating spot markets or wholesale power markets that are traded in interstate commerce is not a state function. So I would not put the market monitoring function for the market that I think this Commission is concerned about establishing in the state commission.

I do agree, though, however, with the first part of their observation that the market monitoring function I believe should be outside of the RTO. And I think it should be outside the RTO because if it's outside the RTO, then we will answer the question I think is a threshold question, which is, who will they tell and what will the do with the information when they get it? If it stays inside the RTO, you're essentially saying you want the RTO to fix something or react to something.

I think it's important for this independent entity to perform two functions: Have a credibility that is important that I think Marji mentioned, which is to have the ability after the fact or close to real time to explain what went on and what caused it; and second, to have the RTO review -- pass in information about flaws in the market, design problems, factors that need to be addressed and fixed. Maybe a form of gaming arises that we think is outside the bounds of what a market should have, and that needs to be addressed.

So I think those kinds of ideas need to be there. So I would have an independent market monitoring function. I'd have the information be made public to participants, but mostly to be turned over to this Commission rather than to the state commissions. I wouldn't deny it from the state commissions, but I think it's an oxymoron to have state commissions regulate a wholesale power market.

MR. BOOTH: Just to clarify, I don't think I was -- I shouldn't have been implying that it would be a state function. It would be a question of whether it would be a function of FERC, or as you point out, some other independent entity.

MR. NELSON: I was going to agree with Dr. Cicchetti that it doesn't belong in the states, the monitoring of the wholesale markets, not only for the

reasons he stated but I think the states, maybe Texas has got an unlimited budget, but I know it's very difficult --

(Laughter.)

MR. NELSON: -- very difficult for us in Michigan and other states to go to the legislature and ask for something. And my point is, I think the market monitor has got to be well financed, whether it's inside the RTO or outside the RTO. I believe, as Dr. Cicchetti mentioned, it could very well be outside. It's important to be very independent and not be reporting to the RTO before information is fed on to the various agencies they have to report to.

MS. PHILIPS: Can I take a shot? I would agree. I hate to throw in and to make the question more complicated. I know we're going to go back to it. But you have to step back and say, what are they going to monitor? And let's not forget, it's not just bad generator behavior. They're going to be monitoring implementation of the rules. They're going to be monitoring whether the IS systems work. They need to be monitoring whether there's appropriate -- the dispatch rules are followed, is the ISO posting or RTO posting the right available transmission capacity, is it complying with OATT? There's an awful lot of things that right now the actual RTO or ISO's actions are not being monitored. And that's a critical piece of the confidence in

the market, that they're doing what the rules were set up to do, in addition to monitoring the market participants.

So I think it is very critical that the market monitoring function be outside of the RTO, and there are two ways you can go. It can report to its own independent board, or it could report directly to FERC. As far as the costs go, I think you're just going to have to have some sort of adder in the tariff of the RTO and that pays for that function. And what I think is an interesting question for much further speculation is how many market monitoring units are you going to need? Are you going to need one for each RTO or at some point will it get sophisticated enough that it can monitor a region? So that's going further down the road, but you're on the right track.

MR. POPOWSKY: I think there's some benefit from having the market monitor or the market monitoring unit being physically located within the regional transmission operations so that the market monitor has real time access, can look over the shoulder of the operators, knows everything that the operators know as it's happening, and is not simply reviewing a printout even an hour later or a day later.

So I think there's a real advantage to that physical proximity and for the market monitor to have complete access to all information.

Now what you want is physical proximity but policy independence. In other words, I think you want the market monitor first of all to have direct access to you at FERC without going through a filter of anyone else at the RTO. I think there's a lot of decisions that the market monitor can make in the first instance, in particular getting access to information from market participants.

I think the degree of independence that the market monitor needs depends in part on the degree of independence that the RTO has. I still like to talk about ISOs, independent system operators, that are truly independent and whose only goal hopefully is to make sure that the market works for the benefit of the public. The market monitor in that kind of a situation should have the same goals as the RTO. I think when you move away from that model, then you need the market monitor to be more distant from the people who are in charge, let's say, of the RTO.

So basically, as I said, I think physical proximity is critical. The degree of independence is important, but it's probably even more important if you have an RTO that's not fully independent.

MR. ROACH: I'll just I guess quadruple the vote for independence. But I think it's very important, and you've already begun to hear it, why do you want independence? What does that do for this market monitoring

unit? And I think it does two things that are necessary. One is it allows them to address the issues that they think are most important.

We want to standardize, but we don't want a check-the-box market monitor. We want a market monitor that goes to the problems, and as I said earlier, an early warning system. If there's a problem in the gas market, let's be paying attention there. If it's a problem in transmission constraints with the RTO, let's be paying attention there. So we want that independence so the unit can warn against whatever the problem is.

And secondly, and this has already been mentioned, we want that independence because it creates credibility. I would think that we want a market monitoring unit that everyone wants to talk to on all sides of the issue. You know, it's a little bit like CNN. You know, CNN goes anywhere and it could be in the middle of any kind of conflict, and everyone wants to talk to CNN because they have influence, they have access. I think that's another role for independence.

MS. SHEFFRIN: From the perspective of being an on-the-ground market monitor who's done it, I would have to say that having access to the information and close proximity to the RTO is very important. A lot of times it's the market operators that are the first to alert us of

problems in behavior.

The other is that all the things that the market operator is concerned about is the same information the market monitor needs and needs to be looking at. So that close proximity is very important. I think you can get the independence through a reporting change, but it's very important to have that information on a weekly basis.

And also, in terms of independence and quick action, you need to be on the ground watching this information. Markets change very, very quickly, and too much money involved to have to wait for months to report it to FERC or have FERC be the principal actor. It has to be an empowered market monitor.

MR. MILLER: Let me ask a question at this point because I was happy that Bill established that threshold question, and I'm happy to see that we've got some consensus around independence.

There is an issue about information, and I think one of the things that I'm hearing is obviously that this is, you know, this is not only a consumer of information but an analyzer of information. But I also think there's an issue for consumption of information by all market participants. And should the market monitor be making information on things such as bids available on a very quick basis? I mean, for that matter, should RTOs be making bid

information known, you know, next day or within the hour?

PROF. CICCHETTI: I'd say no. I think one of the problems in California, if you want to use that as your guide, was there was too much transparency. Information was too readily available, and even the market monitoring functions of both the Power Exchange and the ISO, when I studied it, I reached the conclusion that putting their models and their statistical results on the Internet was making it easy for market participants to do their own gaming and understanding the system.

I find nothing fundamentally wrong with people in markets who are trading to develop their own models. But to the extent we're going to have market monitoring be done for the purpose assisting this Commission, and maybe to some extent state agencies, decide whether or not the extent to which their utilities participate in the market is just and reasonable, I don't think we should be making those models and those statistical techniques widely available to people. I think market monitoring is more of a private function for regulators, and their import is to be able to express information about what's going on. Some of that might need to result in tariff changes. That's one of the reasons why the ISO may need to have this function. Whether the independent market monitoring entity is in the ISO or not is a separate question.

In California we had four different market monitoring groups. There were two internal groups, two external groups, and one for each -- or each, both the Power and the Exchange and the ISO had two. So that's where the four came from. I'm not saying that people shouldn't market monitor themselves, including the ISO or RTO or whatever it's called. But this independent entity that has to have the credibility to explain what's going on, what needs to be done and maybe even the authority to bring on their own tariff changes or market structure changes, fine-tuning that I think may need to be done in the way of resolving issues that develop in markets is a question that I think needs to be considered. And that's a question of saying what do they do.

MR. MILLER: Well, I think I do agree with you in terms of the sort of analysis and reports that they produce in times of stress. Because obviously some of the things you were talking about were analysis of what was going wrong. I think what I meant to get at was the more mundane information for market participants, for example, to know, you know, if there's a shortage upcoming, whether they need to hedge, how the bidding was going on most normal days, that sort of thing.

PROF. CICCHETTI: See, but that's the function of a market. It's not the function of a monitor or a

regulator. Remember the biggest problem in California was everything was forced to go in a spot market. You had to trade in the spot market. You had to buy and sell in the spot market. No other RTO or no other state has done that and no other part of the world has done that. They all had 80 to 90 percent long-term positions and very small amount of spot.

Even in the Midwest in '98, there wasn't as much power affected as the headline-grabbing prices that flew up in the spot market. And that's a structural problem. That's not a monitoring function. If we have future RTOs, I suspect either this Commission or state commissions or some common sense set of process will be in place that people will in fact automatically hedge, and they don't need to be told to hedge. That's the function of markets, not the function of design or monitors.

MR. NELSON: Let me just briefly disagree. I think if you're talking about whether the market monitor should have access to bids and bidding patterns, I think they should. And I think they can do that without having transparency, as Dr. Cicchetti alludes to. I think there should be some access the market monitor has on a confidential basis so that if he does discover strange bidding patterns, that can be dealt with immediately either by reporting to this Commission or by taking action on their

own initiative. And that's why I'd be an advocate of empowering that market monitor to take action if there is some real fundamental shift in trading patterns and bidding patterns.

PROF. CICCHETTI: I agree with that. I agree the monitor should have the bidding information. I just don't think they should make the information, either in model form or certainly in disclosing the data form, even some months later, the bidding patterns of market participants. I don't think that should be done. But I think the monitor, independent monitor, needs to look at that information to see if there's let's call it "unreasonable gaming", which is a standard that I don't know how to define, but when we see it, we'll know it maybe.

(Laughter.)

MS. STRASSER: I'd like to ask a question. Anjali, who's probably had the most experience in actually monitoring a market, began to list some of the responsibilities that you think are part of a market monitoring unit's role. And I'd like to just explore what those responsibilities are in a little bit more detail and to ask all of you in response to what she may list as the features of what those responsibilities should be, if you agree that that's a standardized role that all market monitoring units should have, or are there distinctions that

should apply based on the kind of RTO that gets established and/or regional differences that may exist.

MS. PHILIPS: I was chomping at the bit when she was speaking and to behave. It was hard. Let me take this to a very high level, which was the conceptual remedies were proposed once again were let's find a cost base, and that's all generators can bid within that parameter.

If you have a structure where you have to continue to cost cap them, you've a structural flaw in the market, and that's what needs to be fixed. You shouldn't be relying on these measures to keep prices down artificially, because they won't show you the problem. If someone is bidding above that cost cap there may be a whole reason for it. The 12-month is a very nice concept. But we have different weather patterns. You know, generation, I know sometimes we can lose 2,000 megawatts of generation coincidentally over a two-month period of time, and we're going to change our bidding strategies in response.

So I really have problems accepting a premise that we're going to go in and go back to cost-based ratemaking and that's going to be the bar. We're going to take away all the years that have been spent in developing these markets, and I think most people feel there's a very competitive wholesale market. You've had a major mess-up in a market that went 100 percent essentially to a spot market.

And now we're going to, in response to that, mess up an awful lot of other markets that have been working quite well.

So I think the important thing is not to start off on a premise that you're going to have some market-based rate, but that you're going to look structurally at the market. And if you do have a need to impose some sort of remedy, then you have to ask yourself why. Is it because we don't have enough transmission? Let's do a transmission planning study if we have to have a permanent cap, because maybe it's transmission that's the problem. Are new generators still able to enter? If they are, you want to make sure you don't do anything that discourages them from entry.

And three, the other unspoken piece that always gets left out in this is load. And that is, everyone always wants to know what the generator should bid. And I would submit sometimes we need to ask what price is load willing to pay? And that's why getting load demand response programs is so critical to turning this equation and keeping it balanced.

So, I won't go into the specifics, but I really would like us to take a step back and say every time we have this knee-jerk reaction to mitigate or cap, it's because there's a structure. And all of us would be better served

by fixing the market than sort of blindly imposing -- now a short-term remedy may be appropriate, but I would hate to think that we are going to remake this market on the premise that we're going to go all the way back to where we were 15 years ago.

COMMISSIONER BREATHITT: Marji, I hope that we don't do that. But I have a question for you and Anjali. I have read -- skimmed, I didn't read it verbatim -- the GAO report that came out very recently on California, and a Salomon Smith Barney Internet article recently. And both of them cited these factors as bringing prices down in California: Mild weather, slowing economy, additional capacity entering service, and conservation. Neither document cited FERC's 60 orders and our price mitigation plan.

So if that wasn't a factor, my question is, do you think it did any good? Or do you think these other factors were -- why did we do price caps if nobody's citing that?

PROF. CICCHETTI: I think it did some good.

COMMISSIONER BREATHITT: Nobody's citing it.

PROF. CICCHETTI: I think it did some good. I think what you did was you ended megawatt hour laundering. You ended gaming of the kind that was taking place and you imposed a broader regional market that was being used to

beat the system. So I think those other four factors were the important reason on why wholesale prices came down.

What you did was, and it's also the position that California did, which was to enter long-term contracts in the forward market. Those two things stopped prices from continuing to spiral out of control. So you put the brakes on, both you and the state of California with their long-term contracts.

But these other factors are the reasons why supply and demand move to bring prices down to the same 2.5 cent level that they were in '98 and '99. In fact, if you take the long-term view in California, the price for the five years that California has been in effect if you go through 2002, the price is going to be the same as the just and reasonable pre-deregulation price of PG&E. It's going to be a $50-a-megawatt-hour price because 25, 25, 150, 25, 25 averages out to the same $50 that you would have had under the old standard.

So I think the problem in any of this is what timeframe are we trying to judge how well is the market working? Most of us I think think that the problem in California was, the market wasn't allowed to work in 2000. Consumers didn't get price signals until six months too late. Then they responded. Now that response is credited with bringing down demand. That response should have been

much sooner, although I understand the political reasons why it didn't happen sooner.

But there was a slow response in the regulatory process. It was more of a regulatory failure out there than it was a market failure, and I think we have to understand that. Because the market monitoring function has to reassure regulators as well as the market participants of what's going on. And that's why I think there needs to be a bright line particularly at state commissions to understand they have a role here, and their role is to decide retail access, retail choice. If they want to try to protect consumers, stick with self-billed and long-term purchase power contracts and give up participating in the market, I think most state commissions have the authority to do that. And unless the law changes, they will continue to have the authority to do that.

This Commission, on the other hand, I think has to keep going forward to create a wholesale power market that's workably competitive, remove transmission bottlenecks, and then the low prices that will be out there will challenge state commissions who are sitting on the sidelines, sitting on top of long-term, embedded cost prices, and not participate in that wholesale power market. I think it's more of an enticement that you have to create.

MR. POPOWSKY: Commissioner Breathitt, if I could

say. I can't speak for California, but I'm certainly glad that we have some price caps in PJM.

COMMISSIONER BREATHITT: Well, I was going to ask about the $1,000 ones.

MR. POPOWSKY: And, you know, the $1,000, we very rarely get anywhere close to that cap, maybe a few hours a year. Most hours of the year the price is in the $20 to $30 range. But having rules in advance that people know about that this is the cap and this is the most you can charge I think is helpful. And I don't think that anybody can claim that the $1,000 price cap, I don't think, in PJM is preventing the market from working or preventing people from building power plants. I guess Marji will -- but let me just finish.

I was going to agree actually with Marji to the extent that the better role, I mean, I think the best function of the market monitor, both the market monitors here and the market monitors out in the field I think is to spot the flaws in the market. Spot the flaws in the market rules that permit gaming, not necessarily that people are violating the rules, but that people who are staying, quote, "within the rules", can make an awful lot of money that maybe they shouldn't be able to make if the rules were better.

So I think the better approach clearly when you

can do it is the prospective approach I think that Marji suggested, which is to find out where the flaws are in each of these markets and to try to correct them within the RTO and then, if necessary, try to come to FERC and make sure that corrections are put in place so they don't continue.

COMMISSIONER BREATHITT: I was going to ask Anjali why you favor your rolling 12-month average approach over what Sonny says is working in PJM and in New York and New England, which is the $1,000 bid cap.

MS. SHEFFRIN: I guess there are a number of factors that will determine market performance, and I hope the Commission doesn't get sidetracked thinking it's a nodal versus zonal design or any of those. There are key fundamental factors.

The things you need to take a look at is, is load covered by long-term commitments or not? That's going to determine how well a market performs. Do you have an amount of demand responsiveness? You know, how much is that? How effective is it?

Third, do you have sufficient reserve margins to get you competitive market outcomes? Do you have the ability and discretion to mitigate bids when they're out of merit order? All of those things PJM and the New York ISOs had. They weren't available. So that was the fundamental difference. It wasn't large differences in market design.

I'm agnostic where market designs are concerned. I think a number of them can work, but they have to have some structural features in there. We didn't have them California. Now with consumers getting price signals, you know, we are getting the conservation. This year we're seeing about 3,000 to 5,000 megawatts came from price responsive conservation, everyone conserving from, you know, one year. That's less than what it takes to bring new supply on.

So those are the important ingredients that you need to look at to see how well the market is performing, not these tangential debates on zonal and nodal, which really can only have millions of dollars of consequences. The other factors I mentioned have billions of dollars of consequences. So look at the right factors. They will help you understand how well the market is performing.

Definitely your order has helped. Markets work on perception. You finally got it right and prices came down.

(Laughter.)

MR. ROACH: Just a comment. When Anjali said what should you be looking at or what should a market monitor look at, you mentioned reserve margins and is there enough coverage with contracts. I don't disagree that those are things that a market monitor might want to look at and

forewarn on. The big difference, and this I think is what Marji is going to, is what do you do about that? What does a market monitor do about that? The huge fork in the road here is whether you have -- the market monitor has an inclination to intervene in the market or to pursue structural changes. We will never get to a competitive market if the market monitor is set up so that he or she is always sitting there only deciding when to intervene. That's not a competitive market. That's a re-regulated market.

I really think that it's very important that we begin to think about structural solutions, about changes, about early warning, about structural changes, those kinds of things. And that even goes to Scott's question about what information do you need access to? You need access to minute-by-minute real time information if you're just sitting there poised to intervene. If you're not, if that's not what you're there to do, you don't. You need access to other information, earlier information, early warning information.

COMMISSIONER BROWNELL: Say more about that, would you? What does some of that information look like? What is it?

MR. ROACH: You know, in terms of market conditions, it really is putting your finger on a series of

forecasts. It's understanding the effect of weather. I think what Marji laid out and said that she was aware of in early '98 that we've got some concern about weather. We've got some concern about maintenance on plants. We've got concern about all the things that Commission Breathitt mentioned that's in the CBO report. Pay attention to those things, and either put out the early warning so everyone can batten down the hatches, hedge, or look for more demand side.

But, you know, it's a fairly common set of information that any market participant would look at. The market monitor is going to get it from lots of sources. And I would hope the market monitor would break out of sort of an older line utility planning. They've really got to begin to go with the industry where risk is everything. You don't want to just take the middle, you know, I used to do this too. You take the middle forecast and say plus 10 percent, minus -- uh-uh. If they're there to protect the consumer, they've really got to take a look at the risk and really understand the risk and put out the word that there's a problem here.

MR. POOL: Let me ask you a quick question. I'm sorry, Anjali.

MS. SHEFFRIN: I just wanted to clear up one misconception. What I indicate as a standard that FERC

needs to have of when markets aren't coming up with just and reasonable prices, that was a long standard. That was not putting your finger on the trigger. That was giving confidence that after certain amount of damage has happened, someone will come in and help correct the problem.

So I think what was being said is, we want to wait for structural solutions. Well, sometimes too much damage can be done before those structural solutions can come about, and what do you do in the meantime? So it really was a way to control the damage at a very gross level, not I'm looking every hour to see what prices are. I'm looking at a 12-month average. That is not sitting with your hand on the trigger at all.

But FERC needs to give confidence to the market that at a certain point, you have to fulfill your obligation to look at markets and see if their outcomes are just and reasonable, and you have to give an easier indicator for everybody to understand what that is. And that's what I've offered with the 12-month average of cost and comparing it to some benchmark.

MR. NELSON: Let me just add, I think the market monitor has to look at both the structural changes and also the day-to-day stuff, and I would not ascribe always noble motives to weather changes and things as being the reasons for strange bidding patterns. I think you have to have

somebody that's right there every day checking those markets and reporting activity that they think is out of line.

MR. POOLE: I'd like to on that point ask a question and go back to the independent oversight board concept. It would seem to me that would probably be a good idea, particular in trying to get information. And I'm going to ask your opinion on this. Sometimes I see that if the market monitor is part of the RTO or the ISO, some of the participants are reluctant to give some information that they need, where they might give it to an independent oversight review board. I just want to ask you a question about that.

MS. PHILIPS: I can tell you one oversight review board that I think that there's been a lot of success, and that's New England. It has a very sophisticated advisory board and it's very effective in terms of hearing discussions played out.

But that said, there's a couple of considerations, which is if you do have a board, its cost overlay. And the question is, who's going to have the expertise? Arguably, FERC could beef up it staffing and really get into gear to be the court of first review, or you could have this intermediary where hopefully the participants or whatever is an issue can meet and try and come to a settlement if you will before it goes to FERC.

But I think you're looking at -- I mean, the pros and cons are the expense of setting up an independent board, the expertise. And then the bottom line is, and I'm speaking from experience, is no, you don't want to share your information with the market monitor. But when you're under the gun, you want to show everything you've done t prove your cause. So it becomes a very fine line between how you give that information. But if the market monitoring unit is independent and there's confidence in its independence, I think market participants should be willing to share their information with them on a confidentiality basis.

The role board plays is how do you resolve the behavior or structure identified as a problem.

MR. POPOWSKY: To me, if you've got people unwilling to share information with the RTO, then you've got a bad RTO. That again comes back to my original point. I don't see how these markets can function if the people who are supposed to be operating the system, if they don't have access to everything. And that's again why, you know, you can have an independent market monitoring unit but I think you also need an independent RTO.

Because if that's really happening that people feel that because of the way the RTO is structured, maybe it's a for-profit organization that has a particular axe to

grind, if people are unwilling to share information with that, then I don't think you've met the independence criteria of the FERC order and I think you've got a bigger problem than just what information goes to the market monitor.

PROF. CICCHETTI: I think that you have to -- I'm going to take a little bit different cut on this answer. I'm not so certain that it's a flaw in the relationship of the RTO or its purely a transparency or an information issue. I think that there are two fundamental issues that are at work here.

One is, to be specific, what you're really asking for is do you want to have generators in a region turn over their generation information, particularly their incremental heat rate curves, and whether or not they have the ability to move up and down that heat rate curve. If you get that information, you might fundamentally want to get their long-term positions on their fuel supplies and turn that over, because if you're trying to re-create what the competitive bid would be, you're really trying to say we're going to not rely on the market to work. We're going to simulate the market with this information that we want to have turned over to us.

And I think that may be necessary at times if you think you need to do refunds or you need to impose penalties

on a system. But as an ongoing basis, I think we're almost setting ourselves up to say we just don't trust markets. We want all this information because we want to run our own private simulation of what the market outcome should be. And I think we should think twice about whether we believe in markets if we're going to do that.

The second thing is even more relevant, and that is the information I Just described might allow you to do sort of a parallel generator market, but most markets for commodities of the kind of goods that can't be stored, like electricity, most markets take place with traders -- people who take positions out of portfolios and trade them, who are moving and responding to information in real time. That's what we want in a commodity market. We want traders.

We don't want to get back and see what the farmer's particular use of fertilizer was and to see whether the price that the farmer got that year is matching up with cost plus fertilizer and irrigation rights, because these are markets involving commodities that we're talking about traders. And I think that this Commission is probably not reasonably distinguishing between traders and generators even in this whole set of other issues that are floating around in the aftermath of California. Because a trader's position, their marginal cost is what they paid for the stuff before they resold it. And you can have traders lose

money n very high price markets because they might have bought it for even more, thinking the price was going to go up even further.

And so developing this information base to find out what the cost position would be doesn't work for the people who are trading the commodity, and that's increasingly I think becoming apparent that we're talking about long-term contracts and spot contracts for commodities is what this Commission is really helping to bring about in terms of wholesale power markets.

MR. MILLER: Let me as a question, because it's very tempting in a number of these questions to veer into what is probably the sexier stuff, and that would be mitigation and whether or not to do it. But let me try to stay on what the monitoring should be doing. I'm hearing from a number of you that the structural changes is certainly a big function of it. Arguably, Anjali, when we finally got it right, it had to do with the state and the federal government not being at odds.

Can you think of anything in terms of if you're going to propose structural changes, and I open this to Anjali or anybody, if you're going to propose structural changes which may head things off before they get to the disastrous portions that occurred in California, is there something that can be done, some sort of recommendation that

FERC can then do, consider in a joint process with the states or that are concerned states or what?

MS. SHEFFRIN: Yes, I agree. I think that the market monitors had been saying for years there was concern about limitation on forward contracting, all those issues which were critical protections. Once we write these reports, somebody needs to take action. And the problem was everyone sat around for the other to act. In California, they said, no, it's not a retail problem. The federal government should act. The federal government said, no, it's California did it to itself. We're not going to do that. In that impasse, tremendous hemorrhaging took place.

So what I'm recommending is that once the market monitors come out with their reports, there's got to be who's going do what, that clearly laid out. And sometimes it's the state that needs to do something. Sometimes it's the federal regulators that need to do something, but there has to be good dialogue and communication.

One of the things that I was shocked at is, we had a great assessment of the problem. We couldn't talk to the federal regulators who were sitting around thinking what should they do about. So there needs to be better communication between the market monitors and FERC and the state regulators so there aren't these ex parte rules and things like that which preclude us from having an open

discussion as to what changes need to be implemented rather quickly.

MR. MILLER: Is that because the ISO is a contested party?

MS. SHEFFRIN: Yes, right.

COMMISSIONER BROWNELL: So maybe -- we talked yesterday about looking at different ways to problem solve. Clearly this week is a good first step in that. But maybe what we need is a working group of state regulators, market monitors, some smart independent consultants just to kind of help us maybe outline here's the information that we need. Here, by the way, is the information that's going to be public or not. At least the categories of information I think need to be public to satisfy the concerns that people are looking at the right thing. And here's kind of where we're going to lay out the rules of the road. Because there has been this kind of who's going to do what, who hit Bob syndrome, and I think we do need to get over that.

But I also think we have to have some basis of understanding for acting. I mean, there are due process, there are fact-based findings that kind of are required before we take action. And I think we may have missed the boat on that as well. But would that maybe kind of move this ball forward? Because you all seem to have a very clear idea of the kinds of information we need and some

pretty good experience about where we didn't use it to do the right thing. Marji?

MS. PHILIPS: I think actually in spite of what we're saying, there's an awful lot of consensus in this group that you're hearing.

COMMISSIONER BROWNELL: Oh, I think there is consensus. That's my point.

MS. PHILIPS: And let me tie what's so nice about this panel is we got hear everything earlier in the week. I think yesterday's afternoon panel really made a plea to you that is really the overlay in all this, which is, we need standard market design. Before we get to market monitoring, we need to have markets that work. And this is where I think you heard a very desperate plea that you guys are going to have to get into a lot more detail than you probably ever wanted to, but that at this point we are looking for, for better or worse, we are looking for some standard market designs.

And I think we have a lot of experience to look around and see what works in markets, what doesn't work. And that should be the starting function. And hopefully, we get it a lot better than some of what's been done. And that makes the market monitoring role much easier. And really when you think about it, if you start to get standard designs, the market monitors are going to be monitoring what

are going to be very similar rules and structures, and they may be in a position to detect, well, what's working here, what's not working here.

I frankly see your role as facilitating meetings among market monitors, not to talk about participant behavior, but to talk about have we got the market structures right? And I think that's where you will play a very productive role. And you do need to hear from stakeholders, too. I think we have a lot to offer in terms of what kinds of skill sets that you and a market monitoring unit are going to need. And I would suggest you should be talking to me and the traders, because we know all of the very complicated stuff that goes into our decisionmaking, and we want, if you're going to regulate us, we want you to understand it correct.

And there's a lot that goes into it. And I could go on. So I think you're on the right track, but I really can't emphasize how much getting a standard market design should make this all easier.

MR. POPOWSKY: Yes. In terms of -- I don't really disagree with that -- but in terms of data collection, the only thing I would add is I agree that you ought to get together the folks in the field and find out exactly what information that you want from everybody for your, I guess your market observation organization. And

that should be standardized across the nation so that you have the information that you need. But I wouldn't want to restrict individual RTO market monitors from having access to or the right to get additional information when a problem crops up in their area.

You know, a lot of these things aren't foreseen until they happen, and people are pretty imaginative. So I think the market monitors have to have the flexibility to get information that may not be on the FERC approved list, but theory ought to be able to go out and get that information themselves immediately over and above what you're setting as the standard.

MR. ROACH: I think you're right. There is a consensus here. I think in terms of the information you look at, what you'd gather, I think we could list it out. You know what's most important I think at your level is to say what you want all this information and market design to achieve. And this can be just straight from the heart here. You want the lights to stay on, for example. Now how does that come down to a market monitor? How would that influence what the market monitor does?

Let me just give you a real quick example. I remember reading the PJM market monitoring report issued I think it was June of this year. PJM does a lot of great things. The report is packed with information. But it's

just perspective. I read that report and that's all about market power. And I remember reading some things that say, you know, we looked at whether the price was sufficient to justify investment in the marginal unit, a new peaking plant, let me paraphrase here. And they concluded that it wasn't quite enough. And then their conclusion was, okay, so there's no problem with market power.

And I say, well, whoa, you know, there might be a problem with reliability. I wish they had come to it with that question first. And so you can set the tone by saying, look, our number one concern here is that there's a reliable supply, and then we can list the information. It's what question you're asking with that information.

PROF. CICCHETTI: I think we need to be specific. We're sounding like we're agreeing and I suspect that on some level we are and that's important. But if I can move the debate or the discussion forward on monitoring, let me try to do that by suggesting that I think there's some things that monitors should do and some things that somebody should do but not monitors.

I think monitors should help enforce the tariffs, the rules and essentially play a policing function. Your staff can't do it for each RTO. State commissions can't do it. The RTOs themselves can't completely do it. I think it's important to have an independent cop on the beat, and

that's an enforcement function.

The second thing I think they should do is I think that they should gather information and seek to fine tune tariffs or the rules of the market, the market design flaws when they become apparent and important. And they should be very clear what they can do if they come to the conclusion that something needs to be changed, whether they have the ability to come on their own to FERC for tariff authority or to make a proposal at a public ISO board meeting of whatever kind it is. But they ought to know what they can do.

So fine tuning the rules and enforcing the rules I think a monitor, they should be engaged in gathering the information for those two purposes and should have active things to do when they discover something is going awry.

Some things that I don't think they should do. I don't think we should overreach with this monitoring function. As much as we want in a political context to have some confidence that these changes are going to be in the public interest and be politically acceptable, I don't think we can expect the monitors to predict the perfect storm.

As much as has been written about California, the part that's most startling to me is understanding that the lats time that there was a weather pattern like the West had in 2000, a very unique condition where it was dry but also

hot. In the West, when it's dry, it's always cool, and when it's wet, it's always hot. But about once every 25 or 30 years you get this perfect storm of a weather condition where it turns out in this instance it was dry in the Northwest and hot in the Southwest in the same electric cycle.

The last time that happened we built the WPPS project. The WPPS nuclear power plants. Just to put it in context, we make big mistakes. That was regulatory failure to the ultimate. And now we had what we think of as the worst market failure in recorded human history, but it's the perfect storm wasn't predicted for WPPS and it wasn't predicted for summer 2000, winter 2000 in California.

So we shouldn't expect this monitoring function to tell us something's going to happen bad before it happens because nobody can do that, certainly not a monitor.

The other things that I think we need to talk about in terms of monitoring is somebody, but I don't think it should be the monitor, needs to look at how we're going to build transmission. Do we need transmission? Are we getting enough entry? Are the fuel sources that are going to be put in these power plants, are there bottlenecks or problems in the fuel supply system that need to be considered?

These are problems that could cause prices to

increase sharply and politically unacceptably, but I'm not so sure the monitor that's going to be our on-the-scene follower of the trades and the bidding and all that information should take on that function. That's partly an integrated resource planning function of the state commissions. It's partly what the people in the business community ought to be doing, and if they see a problem, they should bring it toward solution either with you or with state commissions if they're involved in the process. But I think we should probably understand that there are market problems that somebody should be watching, but I'm not so certain that this official, well defined monitoring entity should be going out and doing that.

The final thing I think that they should do -- this is now my fifth of the things that could be done -- I think we need a credible, after-the-fact entity that can, when things happen, we can go to and they can say, these forces happened. This perfect storm occurred. This natural gas shortage occurred in the East which meant that Canadian gas went one way when it normally would have gone another way. These kinds of untangling what happened is probably something that needs to be done, and this monitoring entity at least would be a candidate for doing that.

I'm not so strong on this fifth point. I think there's a need for some real time reaction to when things go

wrong to try to attribute the causes, the different factors. But the monitoring function I think is really a policing function and bringing after the arrest and booking and charging, bringing to somebody that can fix it like asking for tariff relief or asking for changes in the rules that the ISO or the RTO or whatever it happens to be. I think we should make them have that function, not to fix everything or anticipate everything. And I have a sense that this conversation is looking at all the things that would be useful to have in the way of information and assuming the monitor will do that.

I think the monitor has to be a lean, mean, fighting machine and do the thing that needs to be done, which is to find out in real time what's broken and how to fix it, not all this other stuff.

COMMISSIONER BROWNELL: Can I just ask for clarification on one issue and make a point? I think we understand there's a planning function for the RTO and we've talked a lot about that this week in light of some of the issues that you raised. But I thought I heard the other panelists suggest that the market monitoring unit ought not to only be looking backwards but ought to be looking at various models and simulations to kind of say if the following conditions applied, this is what could happen. Or the early warning system that Marji alluded to,

understanding there is no perfect prediction.

But one of the things that concerns me is we're not necessarily looking forward to anticipate and not therefore kind of creating the right policies or environment where we can respond to those, and we're playing the catch-up mode that we did in California and in some other instances.

MR. ROACH: I'd really agree with what he just said. Charlie is absolutely right. We could not have predicted a lot of the perfect storm or some of the perfect storm. But, you know, I really believe that -- and we're all to blame. We're all looking at the trees of rules and things. But, you know, I think we knew a long time ago that the gas infrastructure in California was not up to the job. We knew a long time ago that Kern River, Mojave, those bypass pipelines would have helped get gas into important areas. That's years ago we knew that. And we knew some of the impediments to that: State rules, state tariffs.

I think had a market monitor looked at places like Texas or PJM and looked how much new entry was in the queue and actually getting done, they could have said, whoa, there's not enough here in California. They could have done that simple comparison and I think they could have known that at some point.

Now we can't -- and the same with transmission

infrastructure. I think we know ahead of time. We couldn't have predicted precisely the peak load, couldn't have predicted, you know that Western-wide temperatures. We're not going to get that right. Although, you know, even today, even after a couple of years, I think forecasters are even better at that now because they're paying attention to risk, not to the average forecast anymore.

But I think there really were big things that we could have known a year, two years beforehand.

MS. SHEFFRIN: I still think we need to focus on even if we knew it, who's going to do something about it and have the channels available. So that early warning system is great, but if no one thinks it's their job to go and make the 911 call, nothing gets done. So I think much clearer responsibility as to who's going to act after it's known is imperative.

MR. POOLE: Kind of getting to that, it would seem to me that to predict or to plan, you also would have to then do a calculation, because somebody's going to have to do a cost benefit analysis to see -- because you're talking about spending a lot of money to fix something that may come down the right. You'd almost need a probability risk assessment made for various conditions so you could make, somebody in an oversight board or somebody could make a judgment on is that a cost benefit that it's worth? You

know, is there a two percent probability this would happen? But do I want to spend, you know, millions of dollars to cover that?

MR. NELSON: On the issue of the oversight board, if you're suggesting that perhaps there is a structural change that the market monitor is going to propose that has to go to an oversight board first before it goes to this Commission, I think I would strongly oppose that.

I think there has to be some direct connection between the findings of the market monitor and this Commission so that you find out about it even if some oversight board doesn't agree that that's a problem, whether there's a cost benefit analysis or not. I think it's important that that channel be established and that the market monitor have a free ride to come here or to the state commissions if need be.

MR. POPOWSKY: Commissioner Brownell, and also in answer to your question, I mean, that's the beauty of the market monitoring function I think is that we are gathering an enormous amount of information and finding out what happens under a lot of circumstances. So based on what we learned on July 6th, 1999 in PJM when the price went up to $900, we can perhaps take action prospectively. Based on the capacity price spikes that occurred in June 2000 and in January 2001, the market monitor can go to PJM, propose

corrections that could prevent that. These are not speculative. You don't need a simulation. We know what happened we know that a lot of money was spent.

So armed with that information, I think you can propose prospective solutions and I think I would agree with Commissioner Nelson. If you can't get those results from the RTO, then the market monitor ought to be able to bring those to the attention of FERC directly.

MR. MILLER: I'm trying to ask questions that don't specifically have to deal with mitigation. But let me ask a question which goes to I think a lot of comments here about, for instance, you know, taking action by the market monitoring unit.

What behavior is wrong? I mean, because for instance, in the equity markets, we have some pretty clear standards of what's wrong. You know, collusion, that relates to insider trading and things like that. Is speculating on a -- you know, because, for instance, some people had some very strong predictions about what the situation was going to be like in California and the related markets in summer 2000 and took positions on that and did very, very well. Similarly, other people didn't do as well.

What, you know, when we say "intervene and take action", I mean, specifically, let's talk about what's bad behavior.

PROF. CICCHETTI: I'm not certain I know what bad behavior is. When we tried to understand the so-called gaming in the California market, we were finding that buyers, and sellers, were gaming the power exchange market because they understood they can improve their position in a single price market -- that's the design -- by getting that single price if you're a buyer lower by underscheduling, or getting the single price higher by undersupplying and then have your position corrected in the real time energy imbalance market of the ISO. And that was the way it was designed. So it almost became a way for market participants to arbitrage their position between two markets.

And it didn't really bother anybody when there was 30 percent excess supply because all the pressure was for prices to come down well below they had been under the old cost-of-service regulatory system because 30 percent excess supply under regulation means prices are too high, and in competitive markets, 30 percent excess supply means prices come down.

So people were fine with that. And everybody knew that you had to build to meet the growth in the California market by 2001 or 2002. But the perfect storm occurred in 2000, and we were caught between a place where we didn't have supply, retail customers didn't see any price increases, and the gaming that had been going on, the so-

called gaming that had been going on, which people thought that's the way markets are supposed to work. If you want to speculate that you can get a better price in the real time market than in the PX market, the day ahead market, that was fine. And both sides were doing it, the way markets and commodities are supposed to work. Buyers and sellers were both playing the game.

So we could see nothing wrong with that. But then when the shortage occurred and more and more pressure was put onto the ISO, which had really very detached from customers, their objective was to pay any price to achieve reliability. That's when that market started to grow from being relatively thin to being a dominant part of the market, and the ISO had to go out of market. And this Commission and others put price caps in effect or tried to do it to try to stem it, and people could avoid those price caps if they weren't in the market and therefore money or megawatt hour laundering took place where people were trading with LADWP and with other surrounding utilities who were trading into the market.

So people found a way around the system. And there was no early warning or monitoring that I think would have told you that there was a problem except a few months before, maybe six months before, there was beginning to be a surge in this transaction in the ISO market relative to the

PX market. The monitors found that. And before they even knew the full consequences, they warned about it. And they said something should be done.

And there was also some paper trails to go to their board of directors to pass it on. It was the outsider said it, the insider said it. Both markets saw it. We found every evidence that the reporting that something was going wrong but not quite sure what it meant that needed to be fixing, I don't know if anybody passed that on to the FERC. The best we could tell, it never got through the stakeholder boards that were in effect. And that was -- you fixed the stakeholder board problem obviously. But there's the new problem, which is the governor's board.

(Laughter.)

PROF. CICCHETTI: But there's a stakeholder board. We're among friends. We can speak freely.

MR. MILLER: This isn't being heard in California I take it.

(Laughter.)

MS. PHILIPS: Can I take a shot? I hate to say gaming is bad. You want us to game. You want us to make money or we're going to get out of the business and there won't be any generation at all. What you don't want us to do is to violate rules, and that's why it 's important that you set a clear path and you let us know what is right or

wrong.

You want to provide us the opportunity to make some money. You want us there. The point is, we had an expression, you know, what is it, that pigs get happy and hogs get slaughtered. As a trader and generator, it really upsets me when I see a colleague, you know, taking advantage of a loophole in a market, for example, the New York ancillary markets when they first went up. YOu know, some people got fat and they got slaughtered. And that's the kind of -- it's important to get the rules of the road right and it's important to monitor and to react when you have pigs. But you do want to leave some room for people to be creative.

What we're doing as traders is we are taking on the risk that all of the load used to take on. We're the ones that are now managing to variable prices, providing fixed prices to retail load. That's what we do at my company. My retail ratepayers are shielded, and I have to bear the consequence and risk of a volatile market. So you want to give me room to play and manage my portfolio. You don't want me to exercise market power. You don't want me to withhold it, but look at why I'm withholding it. We've heard things yesterday, Commissioner Breathitt, about the hydropower. When you put a high bid in, it's not because you want to withhold it. You're telling, I don't want to

run my unit at this point. I want to self-schedule in the hours I'm gong to make money or to do load following. That's not withholding.

However, there are other kinds of withholding and that's the job of the market monitor is to determine was there a rational reason, not to judge the business decision behind it, but is there a rational reason behind the behavior that was taken.

The other thing I can't help but saying is everybody talks about generator gaming. We have a lot of load gaming that goes on, and because it's a little bit more political, there's been a great reluctance to address it by the RTOs and at the state level. And frankly, that's part of what happened in California too. You know, there was a lot of gaming by load, and we see that happening in other markets. That when you're a new entrant, you don't necessarily want to pay up front everything that you're required to, so you go along and then the prices go the wrong way and you're in trouble and you go seek regulatory relief.

So you have to be careful about the terms we use, the standards we use to evaluate and who we're evaluating.

MR. POPOWSKY: Could I just in response, I don't think -- I think you want these folks to be creative. I don't think you want them gaming in the sense that gaming in

my mind is taking advantage of flaws in the market that need to be corrected.

You know, it means like you need the infield fly rule in baseball, you know, for certain just to prevent gaming. So you have to come up with a new rule or you have to change the rule to prevent gaming. That doesn't mean they shouldn't be creative and make money. It just means they shouldn't be taking advantage of flaws in the market rules that need to be corrected, and that's what I think is a major function of the market monitor.

MR. MERONEY: I'd like to carry the metaphor just one step further, and that is I heard someone say, I don't remember who it was now in California, that a blind pig could make money in this market. And I guess that's sort of the situation we find ourselves in. How do we know that we're in a market where a blind pig could make money? Because I don't think that's the kind of market that we want. That's where you kind of go over the line between wanting aggressive competitive behavior and having to deal with the consequences.

PROF. CICCHETTI: The key, the thing that you've heard in this last 15 minutes of discission I think is get the rules right, make them explicit, and then enforce those rules. And the reason why that's important isn't just for the obvious reasons. There's another reason, and that is

that if your market monitors are identifying flaws in the system or let's call it unanticipated gaming of the kind that we didn't set a rule for and now we're seeing it, and while it's not violating the rule, we think it's bending it or interpreting it in a way that we think is unreasonable.

The process of change as I understand it is to go through a tariff change process. That's long and arduous and is not immediate relief. And therefore, if we recognize that we are going to have to respond to things that are bending the rules or excessively using the system in place, if we made it too imprecise and we don't get them straight to begin with, then we're going to essentially invite problems that can only be addressed through a tariff response process which is by its very nature even on an expedited basis isn't going to happen quickly enough to fix the problem unless this Commission drops everything else it's doing and just simply puts out an order a month until it gets it right. And that to me is not the way this Commission should operate. It's not the way due process should work. And it's certainly better to get it straight in the beginning, which means to essentially define the rules.

That said, let's also understand that we're talking about in many instances consenting adults here. And these consenting adults should sign long-term bilateral

contracts with different characteristics if they don't want to be victimized by, whether they're buyers or sellers, by people who are in the other position gaining some advantage from the way they in fact bend the rules to their particular advantage for whatever circumstances would permit or not permit. And there are plenty of hedge positions we can take, protection for even the perfect storm, all sorts of other positions that are out there that you can protect yourself on. But long-term contracting is the best remedy. But that'll only happen when the rules are pretty much put in place.

And I think we can probably, even though it's a big shrug, we can probably shrug a lot of California off by saying it was the first one, and it was overdesigned, and it was overregulated in terms of -- and less reliance on markets and stakeholders each had their position, and we had an imprecise, unclear objective.

Future RTOs I think are going to be about getting competitive wholesale power markets right and removing regional transmission obstacles and encouraging entry of nonutility generators. That's a much more limited objective than the list in California which would probably take us two days to go through just describing the list of their objectives. With more limited objectives, it's not as daunting a task to get the rules right to begin with. And

once you get them right, I think it won't be as necessary to have market monitors come in and say change the rules, change the rules. They may come in with, there's a problem that we didn't anticipate. Maybe we need a new rule for it. But that's a different kind of problem than the kind is about people bending and twisting and getting around the rules.

MR. ROACH: Scott, you asked and we're all addressing that, what is wrong. And let me take that first from a legal point of view what's really wrong, what's against the law, and where do we want to be as an industry. I think that eventually we want to be where every other industry is, and that is what I'll call an antitrust standard.

We want to be monitored or looked at when we go into play. We have a big merger or we do something wrong. And you already stated the fundamental antitrust standard is collusion. That would be wrong. Price fixing of some sort. So that's where we want to go at some point and have that be what's wrong.

In the interim, we have to learn what behavior is legitimate economic behavior and what is actually beneficial trading behavior. And I think, for example, just a quick example on each of those. You know, it's legitimate, to be honest, if you face a price cap of X in a state and next

door you can get two times X, it's legitimate economic behavior to go after the higher price. That's just taking account of opportunity costs. I think every economics textbook would say that's part of determining market prices.

In terms of trading behavior, I think again, Marji is saying what I would say. What all these traders are doing is they now face market risk. You never had that before in a regulated world. So now we've got to figure out how to take and deal with and mitigate market risk.

Somebody making a bet that there's going to be a shortage might actually be in that bet giving protection to a consumer against market risk. All these plays may have another side to it. So we want to make sure that we allow traders to deal with market risk and to give consumers the kinds of protection against market risk that they want. And that's the kind of things we have to sort out.

MS. SHEFFRIN: I guess I would have to respectfully disagree with Craig on his first part of his statement. We do not want to run this market based on antitrust standards. That is not what the Federal Power Act says. The Federal Power Act says for electricity and natural gas, it's the standard of just and reasonable prices. So that is a much higher standard that we have to look at in terms of these market outcomes, and I would hope you don't forget that.

Many people want us to go back to this lower standard. Anticompetitive markets is not against the antitrust laws of the United States. But it is, in my opinion, against the Federal Power Act.

MR. GODDING: Let me ask something. We've talked about playing the policeman as well as forward looking and I think we've got semi agreement on that. We've got agreement on independence. But I haven't heard anything really other than possibly raising a red flag, what is the role of the market monitor do you think, and how does that fit with the RTO, the state, and FERC? How do those mesh together? Please.

MS. PHILIPS: I've thought long and hard about this one. I think that in an ideal situation, the market monitor is going to identify one of two things. Either we have a market structural problem or we have a market behavioral problem.

So let's take the easier one, the market structural problem. I'm being somewhat tongue-in-cheek. I think that the appropriate role of the monitor at that point is to go to -- to perhaps let FERC know what the problem is. But I think it's really important that it be encouraged to go back to the RTO and to whatever stakeholder governing processes into the RTO and try and, aside from the fact that there may be an emergency filing to fix the solution short-

term, my concern is we've seen that happen and those emergency solutions essentially get codified, so I don't want to sound like I'm supporting that. But it may be appropriate that a very short-term solution gets filed, you know, to stanch the bleeding.

But then the market monitor would work with the RTO and whatever stakeholder process and hopefully come up with the proposed solution. If they agree, they file it together at FERC and say this is what we agree on. If they can't agree, then you go to their normal process where FERC would hear it. I hate to tell you this. I think you guys need to speed up the process. You're going to have to expedite a lot of this stuff. So that's how I see that one playing out.

In terms of market behavior, I think that the monitor should work with the participant who has been identified as being the bad actor, sort of give them a full press hearing so they understand where they're going, and if it's possible, I think it's appropriate that a settlement be reached between these two parties. If it's a settlement in the sense that it's what I would call one of these maybe somebody hasn't violated a rule, but, you know, they're kind of not complying with the spirit of it, I think that's where there's opportunities for settlement and perhaps even that's almost a structural issue.

When someone has clearly had a bad behavior, I think they're going to have to go to the Commission. Because I don't think the market monitor should be in a position to actually impose the penalty. And I would suggest that at that point that the proceedings be confidential, that they remain confidential until the accused is proven guilty because you want to keep confidence in the market, in the investor community. And unfortunately, our system doesn't always work that way in terms of presumptions.

And I think after a resolution has been achieved, you have one of two things: The market participant is found not to violate anything and it becomes a private matter that is between FERC, the participant and the market monitor. And if FERC determines in fact there has been a violation, at that point it's appropriate to make the information public, not necessarily the details. We don't have to quibble about that. But to make it public and to say what the remedy has been. And then of course that market participant has all the other remedies available to it, which is to appeal to FERC or appeal outside.

But that's how we would see the role playing out, the critical piece being that when it comes to bad behavior, the market monitor is not in charge -- it does not have the ability to impose the penalty without going outside.

MR. NELSON: Let me add to that just briefly. I agree with Marji's distinction between the structural and the behavioral and I think with behavioral, obviously there is this need for confidentiality that she alludes to. But I think it's important the market monitor, if he discovers something and is in this role of a policeman that Dr. Cicchetti mentioned, that he issues something like a citation, like a police officer would. It's a confidential process, but that citation may go to FERC, it may go to some other agency. It may go to a state commission if this indeed affects the retail market. And think the state commissions can be entrusted to keep this information confidential and so would the other state agencies and federal agencies that might get referral of these things.

So it's not just the FERC that might get involved in this process. And I think, alluding to my previous point, I think there could be some co-enforcement between FERC and the state commissions on something like this. But I would agree that with structural problems that there should be this due process that she alludes to that goes to this Commission.

MR. POPOWSKY: I would say I think it's a little dangerous to keep the public in the dark for quite that long, particularly as Marji stated it, I think that commissions certainly can make known, and for that matter,

the RTO can make known if they believe there's been a violation.

Also, I think in some circumstances, I think it would be preferable if the burden were on the company to go to FERC to avoid the penalty rather than have the market monitor have to go to FERC and say, well, they won't do what I want, so I want FERC now to take the case. That is, the burden shouldn't always be on the market monitor.

So the market monitor ought to be able to insist on getting information and perhaps take other actions that the company should have to respond to. Then the company or the actor would then have the obligation to come to FERC to seek protection rather than the market monitor have to come to FERC to get enforcement.

PROFESSOR CICCHETTI: Staying within the analogy that I wish I hadn't introduced, but everybody's using it so let's stay within it. The fundamental question that your question poses is whether the market monitoring office or entity is going to be working for the ISO to help them fix it up internally, kind of like in a corporate security force. Or whether this market monitoring office is going to be working for the FERC, and we would recognize, in the latter instance, that in the sense this market-monitoring entity is going to be enforcing the tariffs you've approved, and making certain that if information comes forward where tariffs had to be revised, regulations have to be changed, they bring it to you directly because they work for you, as opposed to bring it up, as I think it has been in California, they bring it up to the ISO, the ISO Board would decide at the ISO Board, would then make a tariff proposed change to you. But the market monitoring functions, at least in the California ISO, were designed to be the equivalent of the internal force. They had some outsiders helping as well who were very outstanding, but the information was always expected to go to have the ISO, in that case, revise or make decisions about what needs to be fixed, and then bring it to you to get approval.

The question starts to become, does FERC want to have that more direct control on other RTOs where this

market monitoring function goes directly to you, regardless of whether it also goes to anybody else. That's really I think the fundamental question. Do you want this independent entity to have the authority to come to you on its own for a tariff change and to report to you without going through other entities, or not? I think that's the question.

MR. GODDING: I think that is. The question is, you go to SEC model where the RTOs perform like the NASDAQ or New York Stock Exchange or something like that. That's kind of the question where do we go.

The other concern I had, when we were talking about confidentiality, there's somebody on the other side of bad behavior and you know, even if you are imposing fines now how do you start to deal with that. If you're doing something behind closed doors, do you bring them in too and try to rectify the situation? It's a concern I have if that's how it functions.

PROFESSOR CICCHETTI: If you focus on the SEC analogy, I think there's a lot of self-policing that's been delegated and therefore you have the model which is a version of the California approach where it's essentially policing internally and they bring a process in place to bring about change. Maybe that's a governance issue and maybe you fix that by getting rid of the stakeholder boards,

and maybe you need to do some more fixing to get rid of the board that they have now but somehow that may be a governance issue as opposed to a monitoring issue. And it would be a mistake, I think, as a matter of just forming good policy, to use California as your model for everybody else. It may be that if you start out with governance in place, and you don't have stakeholder boards, that you might want to continue with the model as you had it where it is like the NASDAQ model and it is this internal policing.

And then if there's a need to fix it, the governance structure, independent as it is, will bring it forward to FERC and you don't need to have this oversight entity. However, Anjali makes the point, and you have to decide how much weight to give to this point. If you think that the just and reasonable standard trumps fair market value standard, that somehow they're different, and you need an on-going regulatory entree into the RTOs to make certain that this just and reasonable standard is to be applied, then I think you need your own police force. It depends how much weight you give to just and reasonable versus fair market value.

I don't know where you are on that. I know where you used to be on that, but I don't know where you are on that going forward.

MR. ROACH: I just wanted to comment. I think,

George, you've opened the door to something that is another element here. I think Charlie's calling it the NASDAQ standard, the self-policing standard. I think that's important here. I think the industry really should speak to what several, including what Anjali mentioned in the beginning, about consumer confidence. I think the industry ought to step up with some rules of their own. With their full knowledge of the trading business and their hands-on experience, and offer something up that perhaps they see as needed to regain or keep consumer confidence.

There are big, broad examples in the financial industry. You know, I always think about money market funds and the value you have as a dollar. You put a dollar, you have a dollar. Several years ago when that was threatened, the industry, Merrill Lynch et al, stepped in to make sure that everybody kept their dollar. They did that because they thought that was really important to keep that business and to keep the consumer happy.

I'm thinking in those terms. There may be some basic rules that the industry can come up with that really build or keep consumer confidence and I think that at this point, the industry really ought to step up and do that.

COMMISSIONER BREATHITT: Craig, along those lines, we heard pretty loud and clear from the state commissioners yesterday that the public won't be able to

take a whole lot more of California-type situations, and they were asking us to make sure that as we go to more competitive markets, that we do have better working markets and practices in place that can make sure customers get the benefits for competitive markets. I think that's what you were saying also.

MR. ROACH: Absolutely. All of us who work in the industry really have to think about taking responsibility for the outcome of the industry. And I think people do. All of us, we've been looking at the trees a lot. I spent a lot of time fighting over rules and all that. Let's step back, let's make the consumer really feel they're getting the quality and the price and the innovation contract that they deserve. That's good for everybody. And I think the world's a little different place after California. We should really do that kind of thing.

MR. MILLER: Let me ask a question. I'm trying to get at some of the things that market monitors should do, once of which is information that they need. I'll start off with you, Anjali, and see if we could get some sort of consensus along these lines. Give me the information. Let me ask the question of yes/no, and you can amplify it.

Should there be standardized information and standards gathered across the country by the market monitoring units that they should gather the same sorts of

information and measure it against the same sorts of standards.

MR. SHEFFRIN: I think a common set of standards helps everyone. It helps consumers, it helps market traders, everyone when there are common standards. I believe that these markets are very complex, so to really cull out and get it to some simple indices and things that can be followed across all markets is going to be very important, and of course not just getting the information, but then acting on that information is just as important. We can't forget that second step.

So I am going to constantly remind everyone it's one thing to get information, it's a second thing to act on it, and that is just as critical as getting good information.

MR. MERONEY: Can we standardize the actions to or just the information?

MR. SHEFFRIN: What I proposed were some standard actions that FERC could put in place that gives confidence to everyone as to when intervention will occur and when it won't occur, because things are transitory.

MS. STRASSER: But I think Scott's question -- and I think it's one I asked earlier -- is what kind of information gathering should a market monitoring unit perform and collect.

Let us assume that we've already gotten the structure right. Let us assume we have market rules that are at least better than we've seen in the past. Of course, they're not going to be perfect and it's going to take a while to flesh that out.

With those givens and trying to keep way from the actions, the penalties or the mitigations that would occur afterward, can we focus on what is the information that the RTO market monitors ought to have at their disposal and how much of that is unique to the particular RTO. How much of that has some uniformity that we can make either region wide or nationwide.

PROFESSOR CICCHETTI: I'll give you an answer without beating around the bush. In California we did it two ways. I forget which way, I know we got it straight. Whether the Power Exchange did it one way and the ISO did it another way, they did it two completely different ways. I think both of them were not what a monitor should do.

One of them had a bunch of independent variables and was trying to predict what the price would be, and if they predicted price and the observed prices were off by some amount, they became concerned that the markets weren't behaving according to the norm of the predictive models. So they used an independent variable approach that had weather, gas prices and other factors in it, market forces, so to

speak, supply and demand kinds of issues.

The other entity looked at markups trying to determine whether the price, relative to the marginal cost of production, as simulated by that market-monitoring entity, was finding the markups were too high, just about right, or what was the range they were in.

Those two things I think are things you do to reassure yourself that the market power tests you employed are kind of working and the markets were okay. Your assumption was, assume you got all that right. If you assume you've got all that right, then you don't have to do either of these two things.

What I do think you need to do, and both of these entities were starting to do it, but they were doing it outside their day job. Their day job was to report to you and do these other two functions I mentioned outside their day job. They were starting to look for bidding patterns of the kind that would either represent conscious parallel behavior, which might be a form of legal, antitrust kinds of practices or actually tacit collusion of the kind that people were organizing their bids in a certain way, so-called gaming of the system.

I think you don't want to have certain activity to be organized or imitated to such an extent that you get the effect of an anticompetitive result of everybody acting

the same way. If that happens, you ought to start to change the rules, or you have to have great confidence that people will contract around that problem so they're not victimized by conscious parallel behavior if you're going to allow it to take place.

In other words, people get out of the spot market if they think the spot market is leading to one result versus the result they want to be. But it's understanding and analyzing the way in which transactions are occurring and the behavior of the market participants. I think this is the market monitoring function for implementing and forcing and tweaking or changing or modifying your rules. To me, that's what the monitor should do.

Others would have the monitor do something else, which is to essentially question the issues that your questions assume away. Did we get the market power issue right? Do we have a problem where the markups are too great relative to competitive standards? Or are we seeing that the prices aren't just responding to market forces but their response is way outside the statistical range that the market forces would suggest.

You may want to have those functions of the monitor but they are a different class of functions and the information you gather for that class is quite different from the information you gather for the thing I described as

looking at the bidding practices and behavior. If you're going to use the NASDAQ model, I think it's the latter, it's looking at the bidding behavior and practices kind of issue, not the former, which is what I would say the day job of the market surveillance committee, market monitoring group, all the different names they had out in California.

MR. CANNON: Professor, does that suggest that you might have two different roles over time for a market monitor; a short term role and then a longer-term role, could be very different?

PROFESSOR CICCHETTI: It might. It might be that it's the ISO or the RTO who'll continue to have to turn in annual reports to the FERC or whatever it is, regular reporting to the FERC on the kind of day job I described. How are they doing relative to the estimate of the markups. How well to the factors of supply and demand and other out-of-control market forces, that is, out of the market participant's control, predict prices. You want to know that to know how markets are working. And if they're not working, you may look beyond the structure to look for things that might be somehow or other not causing a result you want to see occur.

This market isn't like natural gas where we may just get unlucky when we try to find natural gas. This is a market where, if we want a power plant, we know how to build

them, and we know how to put them and where to locate them. This market's problems seem to be more in can we build transmission and can we get over those bottlenecks and how does that take place. That's less of a problem on the gas side, but the gas finding is a problem there.

So if we think of it in those terms, you may need for your ongoing regulatory oversight of these industries, or this industry and these regions, to continue to do that information. But that's not really a market monitoring function, that's kind of like should we have a policy review and should we change things. Should we fix something as a matter of public policy. It's not an ongoing policing detection and recommendation of changes if you detect something wrong kind of problem.

Those kind of functions I think would have the monitors look privately, if you can't do it publicly, at the bidding behavior, looking for patterns, looking for behavior of the kind that might start to show that there's something that needs to be done by modifying rules or by in fact saying they're not even playing by the rules. We can detect it by analyzing the data. We can intellectually at least understand you could have a circumstance where, from a public perspective, prices are lower than they were. That's a good thing and everything seems to be working, but somebody's breaking the rules and violating the rules. You

want to send them to jail and fine them.

So if that's our purpose, if that's what you mean by monitoring, we need to make certain that we have that force in place or that entity in place that will do that. If we want to do these other things, that's a separate assignment. It may not even have to go to the same group. It may already be in place when you tell each RTO what you want in the way of annual reports, annual analyses or quarterly reports and quarterly analyses, to measure how well things are going.

But that's not the same thing. Even if things are going well, it doesn't necessarily mean that everybody's playing by the rules or the rules maybe shouldn't be fixed in anticipation of some problem down the road that you're detecting earlier on.

MR. CANNON: I was hoping to draw in this to a closure, only because I know everybody's very anxious to get into what do we do about it. How about a very quick rejoinder from Marji and from Sonny. Then I'd like to switch it over unless anybody else has some further questions, switch it over to John to try to sum up and finish up.

MS. PHILIPS: I hate doing this to you but since I prepared this list, I thought it might be helpful to give it. We are not just monitoring market behavior, we're also

going to be monitoring the RTO and its implementation. We were trying to think of the skill set that either FERC would need or the monitoring. Let me tell you how scary and comprehensive it is.

You have to an understanding of IS, you have to understand the computer programs that the RTO is using, are they working or aren't they working? You have to understand the rules governing the market. You have to understand the technical implementation of the rules. You have to understand transmission constraints and impact on flow. You have to understand electric system operating conditions. You have to understand generation bidding strategies, dispatch scheduling, cost components, environmental permits, operational constraints. Understand trading activity, ability to evaluate lost opportunity. Understand load requirement, load bidding strategies, bidding obligations of both loads and suppliers, understand risk management and hedging. And lastly, speak RTO language and really good with acronyms.

(Laughter.)

MS. PHILIPS: That's the sort of, you know, when you asked about the information, that's the skill set. And when you start to think about that, there's a lot of information that's going to flow back into that. That's what you need to understand, whether the market's working or

not.

MS. STRASSER: I don't want to ask a whole other question, but just to direct your comments and maybe fine tune them a bit, we've talked mostly about the spot market in terms of the monitoring role or the market monitoring units have any responsibility towards the forward contracting and bilateral markets.

MS. PHILIPS: I have the mike on, so I'll jump. I don't think they should. We've seen the problems with that in the Pacific Northwest. It's that unwinding problem, as the Professor said, these contracts were made by consenting adults. We were all trying to manage our risk. I don't think it's appropriate that we start to go into the bilateral market. The only reason that that information may be useful is if someone is suspected of improperly behaving in the spot market, it may be helpful to see what their bilateral positions are so you understand. But I don't really think that's an appropriate role of the market monitoring unit.

MR. POPOWSKY: If I could start on that point then, I think they do need access to the bilateral information for the reason that Marji said, not for the purpose of trying to unravel the bilateral contracts but to try to determine how the behavior in the bilateral market is operating in comparison to the spot market, and to see if

they can detect any gaming or problems as a result of that information. But that's not unraveling the bilateral contract.

Scott, I did want to answer one point, which is my concern about the standardization is not that we shouldn't have standardization; I think we should. But I think even if everybody in this room all sat here for the next two hours and tried to think of everything possible that we could want and that every trick that anyone could play in the future, we're not going to get, you know, somebody's going to come up with something. We don't want the market monitor to have to come to FERC and get a rulemaking to get additional information. They ought to be able to get all the information they need immediately.

Just one other thing in terms of cost information. I think since this is an immature market, I think it is fair, as Anjali suggested, to at least compare how we're doing compared to a cost-based market. That doesn't necessarily mean that at every hour of the day that that's how we set the prices, but it means that over time, we ought to know whether we're doing worse or better. And we ought to act accordingly. I think the market monitor really needs that cost information in order to see how the market's working.

MR. ROACH: To go to this question, the way I

would put it is, if I was a commissioner what would I want to hear from a market monitor, taking Charlie's point that I'm not sure this doesn't come from an RTO. But again, just to be true to this early warning notion and longer-term notion, I'd want a report that speaks first to reliability primarily on an assessment and new entry, real information on new entry; these projects are in construction, et cetera.

Also an assessment of load. There's nothing major going to change in load. We're not going to have a million electric cars, for example, so reliability. Secondly, stability of prices, have they been stable, just observe that. Are they likely to be stable because everybody's covered by a contract or risk mitigation. Is innovation the innovation we want taking place. Are we getting demand side response. Are we getting decentralized technologies. We know what the innovations we want are.

Then go to two other things, the effect of market rules. Someone ought to assess whether price caps of certain sorts or other market rules are hurting or helping. And then finally we can get to behavior. If the market monitor feels there's been some evidence of anticompetitive behavior, certainly collusion, they should certainly speak up.

MR. CANNON: This has been very, very helpful. John, I wonder if you could just do a very high level

summation of some of what we've heard. Panelists, please jump in if we got something wrong. But I am not really trying to reopen debates.

MR. KROEGER: We spoke first about the independence of the market monitor. There seemed to be a consensus that the market monitor should be independent from the RTO, and there was a question raised whether it should report directly to FERC or report to its own board. With respect to making information obtained by the market monitor public, there were points made that too much transparency could be a problem, and that market monitoring should be a more private function.

As information that it would be appropriate to convey to FERC, would be the type of information such as the reporting of shifts in bidding pattern or other market behavior like that. With respect to the market monitor's role, there were two different types of potential roles discussed at various points. One was the immediate intervention role. The other was the more long-term perspective warning role that could include compiling forecasts, looking at weather or maintenance on plants. We picked up on that discussion somewhat later.

There was discussion regarding the independence of the market monitoring board, the cost that a truly independent board could result in, whether there should be

shared information on a confidential basis, and the directness of the communication between the market monitor and the FERC and the RTO.

One point I'm not sure there was consensus on was whether it was clear that the market monitor and FERC should be in direct communications or whether there should be another party in between them, or whether there should be an impediment on the FERC being able to go to the market monitor and to get the information that it wants.

I wonder if quickly we could take a poll or you could say whether you think that's an issue that should be addressed.

MR. NELSON: I think it should go directly to the FERC both ways. I'm not sure there was much disagreement on that here.

MR. SHEFFRIN: I think everyone said direct communication.

MR. KROEGER: We also talked about concerns regarding the need for structural changes. The suggestion was raised that in order to get to the content of what a market monitor should be looking for and asking for, that a group of regulators, market monitors and consultants be convened to compile a list of the required information and it appeared that there was agreement that that kind of a process could work.

Once again to the role of the monitors and the FERC, there was a suggestion that there could be looking at it, looking at two different roles; one an enforcement role or what's broken and how to fix it. And the idea expressed there was that the market monitor has clear authority, whatever authority it does have, that it be clear to attempt to rectify the situation or to refer the matter to FERC.

The points were also made that the market monitor should not try to predict future conditions or be involved in integrated resource planning functions.

With respect to the discussion of what bad behavior is, there were opposing views expressed there. One view is that gaming is not necessarily bad; the important thing is that rules be clear and traders should have the opportunity to earn profits within the context of preestablished rules. Another view was that generators should not be allowed to take advantage of market flaws. I understood by that the comment to mean that where there is a market participant that profits greatly, even if it's within the rules, that that's the type of action that would be subject to a remedy. So perhaps on this panel, there was no consensus with respect to whether activity that results either in a great profit or a great loss to someone but is consistent with the rules should be subject to a remedy by the market monitor or the Commission.

There was also a discussion about what the standard of bad behavior is, kind of an ultimate question of whether it should be the antitrust or the just and reasonable standard.

With respect to the market monitor's role again, there was a discussion about exactly how the market monitor should work through what it should be doing and with respect to structural problems. The idea was that if a market monitor finds a problem or an anomaly in the market that is attributable to the structure, that it should report to the RTO and/or the FERC with a proposed solution. If it's a matter of the behavior of an individual participant, the suggestion was made that the market monitor go to that bad actor and permit the bad actor to give its side of the story with the object in mind of either reaching a settlement between the market monitor and the bad actor, or if that's not possible, referring the matter to FERC for a possible penalty.

There was not agreement with respect to the point at which, if at any point this matter becomes public, there was a suggestion that the bad actor incident only become public if the Commission finds at some point that the bad actor was guilty of something.

COMMISSIONER BREATHITT: John, I was just going to ask you to clarify that. I probably having a sidebar

conversation, we're still trying to get ready for our Commission meeting next Wednesday, so the bad actor working with the market monitor would be confidential unless what?

MR. KROEGER: The discussion was that the market monitor and the bad actor would first discuss the matter and see if they could reach settlement. The question then came, which was not resolved, at what point, if any, does that settlement become public or do any facts underlying the dispute become public.

Is that a fair summation?

MS. PHILIPS: There's a second part too about when you do go to FERC, there was disagreement and I was suggesting that the matter be kept confidential until a party is found guilty, which has been the way it's been handled to date within the pool processes, not at FERC, but within the pool processes. But there were some that disagreed with that.

CHAIRMAN WOOD: What if you had a settlement that does not include an admission of guilt. If the settlement at the RTO level between the MMU and the market participant?

MS. PHILIPS: We've had that happen. I've fairly been active in the three Northeast RTOs. The results have been different. There's a difference between when you have a clear violation of the rules and someone not complying with the spirit. I think the non-compliance with the spirit

is where you reach a sort of settlement agreement, and you may not actually penalize the participant because they didn't technically violate any rules.

My understanding is, when folks have actually violated rules, that it has been brought to your attention, but I can say it's a cause of great speculation when we are informed that a party's been violating the rules within the pools, and we spend hours trying to figure out who it is. Nobody ever tells us and we're not the worse off for it. Even if there's a structural remedy in refund, the point is not who did it, it's been sort of a great protection of privacy. I was urging that that continue and others didn't agree.

MR. KROEGER: The final point related to standardized information gathered by the market monitor. There seemed to be no disagreement that the idea of standardizing information obtained by the market monitor was a good idea, and also the point was made that this information could be very broad in scope and it could be very complex and difficult to understand.

MS. PHILIPS: Since we are on the record, can I just correct one thing? I'd hate to leave here with someone thinking that I'm all in favor of bad gaming. I used gaming as Sonny defined it; I didn't really mean gaming in the nasty sense, but in looking for opportunities. So I just

want to be clear on that.

MR. CANNON: We would never think that.

Thank you, John. I would like to thank the panel.

Mr. Chairman?

CHAIRMAN WOOD: Before we break today, and while we've got a good audience here, I wanted to recognize and thank the Staff who have helped, particularly those behind the scenes getting us all set up this week, getting a wonderful set of panelists here today and on all the other days, and just making the trains run on time.

I just want to thank in addition to all the staff who've been here at the mike showing off their brains and talent, Kevin Kelly, Dick O'Neill, Scott Miller, Ed Merle, Saida Shaalan, Kevin Callahan, Jackie Caul, Jim Cameron, Joe Tally, and a number of folks on the logistics and securities side who have handled the great work load this week.

With that happy, we'll go to lunch and start promptly at 2:00.

(Whereupon, at 12:45 p.m., the conference was recessed for lunch, to reconvene the same day, Friday, October 20, 2001, at 2:00 p.m.)

AFTERNOON SESSION

(2:15 p.m.)

CHAIRMAN WOOD: I'd like to welcome everybody back. Rather than start the afternoon with the Pledge of Allegiance, we can start it with the rendering of "Happy Birthday" to my colleague, Bill, and our new colleague, Jennifer back here, who's assistant for Linda. So please join me, I don't sing real well.

(Happy Birthday sung.)

(Applause.)

CHAIRMAN WOOD: Yon can survive a year or eight at the FERC and still smile about it.

All right, Shelton.

MR. CANNON: This afternoon's panel is about the mitigation of father time.

(Laughter.)

MR. CANNON: We've got a great panel this afternoon on mitigation of market power. We recognize that a lot of people are probably going to be trying to catch planes this afternoon. That's a lot more difficult proposition than it used to be so we will try, even though there is a lot of material to cover this afternoon, we're going to try to end closer to 4:30 than 5:00.

That said, we've got a great panel.

We've got Richard Cowart, Director of the

Regulatory Assistant Project with us today.

We've got The Honorable Edward Garvey, Commissioner with the Minnesota Public Utilities Commission.

We've got Bill Hall, Senior Vice President with Duke Energy.

Professor Bill Hogan, who is almost a perennial here any time we have a technical conference.

(Laughter.)

MR. CANNON: Professor of Public Policy and Administration with the John F. Kennedy School of Government at Harvard.

Professor Joskow, Professor of Economics and Director of MIT's Center for Energy and Environmental Policy Research.

Bob Nordhaus who knows a whole lot about what's happening in California and about energy issues in general, and a member with Van Ness Feldman P.C.

Last but not least, Dave Patton, another alumni from our staff who is now President of Potomac Economics.

That said, I'd like to turn it over to Bill Meroney of our Staff to try to sort of frame the issues we'd like to discuss this afternoon.

MR. MERONEY: I already tried mitigation of father time and failed. I'm not sure mitigation of market power is a whole lot easier. But I'm going to throw out,

starting with three points. One is that market power exists in wholesale electricity markets. Two, it's exercise is sometimes significant enough to require mitigation in some forum, and three, RTOs have a role in this mitigation.

It might be fairly easy to agree at about 60,000 feet on these points, but immediately when you descend, there's many, many further issues. Not with any attempt to be exhaustive or any attempt to direct the panel away from their planned remarks, I'll simply illustrate a few of the more obvious ones.

One is what's the appropriate test for the existence of market power in a power market or even do we need one. Does it take a structural form of concentrations, perhaps differentiated by load or some other appropriate dimension. Can we do it by looking at market performance, maybe against some kind of competitive benchmark, or do we need to go to an individual firm type of test. What should be our main test for market power exercise? Should it be withholding, physical or economic withholding? Are these useful distinctions? Should we be looking at actual harm or should we be looking at bids before they go in the markets? How should we mitigate market power when it's found? Should we be focusing on changing structure or if we can't do that, changing major market rules? Should we be restricting bids in some form or capping prices? Perhaps should we do this

through some kind of marginal cost test? And if we did, what would be the role of something like opportunity costs or risk in a test like that? And if we do it before the fact, when should we do it? And just how automatic should this exercise be if after the fact? What might this mean for the prices that were already set in the market?

Next, what should the role of RTOs be in this mitigation process? Should it be a highly limited one, perhaps, as some have suggested, information only? Should it be somewhat limited to actions that can be clearly defined, clearly triggered and virtually automatic? Or should it be one that's much wider perhaps with quite a bit of discretion under some general guidelines? Under this category, last but not least, what should FERC's role be? What should the role of other entities like the states be, and how should all these be coordinated?

Finally, I'd end it with a general question which is what's the relationship between the market power mitigation we're talking about here and some of the market design issues we talked about earlier in the week. For example, are some market designs just more conducive to effective mitigation development.

With that, I'll turn it back.

MR. CANNON: Thanks, Bill.

Can we begin with a short opening statement from

Rich Cowart?

MR. COWART: Happy to be here. As we just heard, and as we heard this morning, the issue is complicated. There's a lot of moving parts. Defining market power, measuring it, monitoring it, and mitigating it. All on your agenda. I'm going to defer to the incredibly learned colleagues on my left for most of the answers to those questions. I'm going to start with a more fundamental point which is actually where the intro ended, and that is market structure.

The single most important act that FERC can take to moderate market power of generators is to structure market rules and transmission tariffs to develop the demand side of the market. FERC should explore every opportunity to reveal customers' demand curves and deliver the economic and reliability advantages of distributed and demand side resources to the grid.

This Commission has repeatedly observed, in the past year or so, that bringing demand side to the trading floor is essential to reveal the demand curve and put balance back into the markets. This is a very encouraging development. I just want to emphasize how important that same act is to controlling the exercise of market power. Trying to control market power without a meaningful demand side response is like trying to steer a car at high speed

with a flat front tire. No matter how tight your grip is on the steering wheel, it's going to be a bumpy ride. You're going to be swerving, and there's a good chance you'll go off the road.

We've learned the hard way that supply side bidding rules concentration ratios, open access rules are just not enough to eliminate generator market power. We've learned the hard way that running around after the fact with market investigations, price caps, and administrative price reformations, however necessary they might be in tough circumstances, is difficult and contentious and adds uncertainty to the market.

It's better to get the foundation right. It's better to have two front wheels on the car before you get in the driver's seat. So what actions are needed? It would be nice if we could say the single magic bullet here and you know, you know it or we're going to tell you what it is. There isn't a single magic bullet. Demand side bidding in the energy markets is the critical first step, but a larger collection of strategies is really needed.

Supply side biases and demand side barriers exist in numerous places in the rules, regulations, tariffs administered by RTOs in markets and approved by FERC. FERC is going to need to look hard to reveal the value of distributed and demand side resources at every opportunity

that arises.

In market rules for the energy and capacity markets, in reliability rules and in ancillary service markets, in transmission tariffs, in uplift standards, and to try to echo something that I hope will resonate, considering yesterday's dialogue with the state commissions in working with the state PUCs and others who have retail jurisdiction to harmonize wholesale transmission and retail rules and tariffs so that the barriers to demand side price signals are removed and the opportunity for distributed resources and customer-owned resources are then, that opportunity is then opened up to the market generally.

If you can work cooperatively on retail, wholesale, and transmission rules that harmonize across those three areas, you'll have a much better chance of getting coherent market signals and mitigating generator market power.

Let me talk about transmission for just a moment. We need to sharpen our look at transmission policies and be wary of an over-reliance on transmission as a means of controlling generator market power. There's a view which is essentially the answer to generator market power is more generators.

And I think the transmission approach to generation is a form of that. There's of course much value

in adding new transmission, but there's also some danger. Transmission tariffs that socialize the cost of hooking up remote generation also undermine the market value of alternatives to that generation. Generation in the load pocket customer side resources, like load management and distributed generation, are undermined by transmission tariffs that remove price signals for those resources.

If you hide the cost of that product, you hide the value of its substitutes. If transmission expansion policies undermine otherwise cost effective demand and distributed resources, we may find that we've actually weakened the tools to control generator market power that we're here to talk about.

I'd be happy to engage in dialogue on all of those points when the time comes.

MR. CANNON: Thanks, Rich.

Commissioner Garvey?

MR. GARVEY: Thank you, Mr. Chairman, members of the Commission. I am very pleased and honored to be here, although I readily acknowledge that I am probably the weakest link of this panel and expect to be voted off the island rather quickly.

(Laughter.)

MR. GARVEY: Let me start by saying to this Commission, what you've done recently is correct, you're on

the right track, keep it up. What's you're doing on the RTO is correct. Size does matter, get it done. If that means sort of breaking some eggs to make that omelet, so be it. Spend your time getting RTOs up and running and not necessarily focusing on the market mitigation efforts. Open large RTOs with good business standards, worthy market monitors that promote new transmission, generation, and demand side management is probably the best way to address market power in my relatively uniformed opinion.

Regarding an RTO rule that you may be considering, among the things I think you ought to consider in the market power sections are making sure that there's open, accessible data, promoting the demand side management components, sending appropriate retail pricing signals and probably strong affiliate interest rules.

Finally, let me say if market power, when it does raise its ugly head, I urge caution and limited action. Avoid reacting to short-term price swings, consider generation and transmission as substitutes for each other, and primarily rely on 206 investigations, not price regulation or other market intervention. I worry that those kind of short-term fixes lead to further distortions and unintended consequences in the longer term public interest.

Thank you very much for your attention and I sincerely appreciate any opportunity to answer questions

that you may have.

MR. CANNON: Thank you, Commissioner.

Mr. Hall.

MR. HALL: Thank you Chairman, Commissioners and Staff, for inviting Duke Energy to participate. I might mention that while my current position as managing energy policy for Duke Energy, I have just entered that role. Actually, I spent the last four years in California managing our assets on the West Coast so obviously I've experienced first hand all the dynamics that have taken place. In fact, Commissioners Breathitt and Massey, you and I appeared on a panel in San Diego in the late summer of 2000 and felt first hand the emotion of consumers when they believe that markets are certainly not favorable to them.

So I applaud the Commission for having these kinds of discussions. I advocated that a year ago when I spoke before the Commission then that we bring different stakeholders and market participants together to hopefully form the right design and structure as we move forward with regional transmission organizations.

I have four quick themes I want to talk about very quickly. One of those you've heard a lot about this week, I'm sure. And that's getting the markets right. I'm not going to say much about that other than a couple of points on the fundamental side with supply and demand. I

think it's important that working with the states, we look at how we can have a diversity of fuels in terms of our generation renewables. Just like in the ability of loads to manage their price risk and to have a multiple portfolio, we need the same thing on the supply side so we don't get constrained to one particular fuel, and then it gets volatile and creates problems in the market.

Around structure, it's key that the loads have risk management tools and the demand has responsiveness as well. When demand has the ability to determine when and what they want and who they want to get it from, that puts pressure on markets, so I certainly applaud those efforts to move forward.

The second is we need to define clear rules and standards relative to screens that would evaluate and determine the potential that market power exists. I'll say that in a couple respects. Number one is we want consistency and clarity up front. We're a major investor in infrastructure around the country, just like other energy companies like Duke, and it's important that the regulatory landscape be as constant as possible as we invest. And our investors look to us to provide new infrastructure and for them to get the right signals that we have consistency of markets and they feel comfortable in investing in our plants.

Certainly there's a lot of discussion on market power and what it means. We would like for the FERC to help in clarifying that. There are certainly a lot of different thoughts around that. Then certainly to establish clear thresholds where potential mitigation might have to take place. That is particularly thresholds that implement an investigation first to determine exactly what's causing the issue and can flaws in the market structure be remedied and remedied very quickly that then will prevent mitigation.

Our concern is once mitigations are put in place, it's hard to ever back away from them. We've got that in the West right now. It's scheduled hopefully to be reviewed and terminated in September of '02, but people get very comfortable with those when now they don't see price signals that send a message that they need to behave differently.

The third point is on the independence of the market monitoring unit. We certainly agree with that. We'd like to see independence from both the RTO and market participants, that they're really accountable to you. And if they determine that indeed there has been some sort of market power exercised, that then the Commission makes the determination in terms of a remedy around that. Also, we want market monitoring units not to be reactive, we want them to be proactive. And I think I already heard that this morning or this afternoon, that they're looking and

anticipating and hopefully providing resolution of that before we get into a very dynamic situation.

Finally I want to end with the role of FERC and the states. I know there's been a lot of discussions around that. We advocate this, certainly the states have to have a role and feel like they're embraced in the process. We ultimately believe in the wholesales markets FERC has jurisdiction and needs to operate under that premise, but the states need to feel like they're embraced in the process. They represent the consumers of each of their respective states and certainly they deserve a voice and an access to the process.

Thank you.

MR. CANNON: Thank you.

Professor Hogan?

PROFESSOR HOGAN: My thanks to the Commission for the opportunity to participate. As always, I don't speak on behalf of anybody else here. The topic today of course, as you said in the introductory remarks, is intimately connected with several of the issues that have been discussed over the week. I think when you think about the problems associated with market power and mitigating market power that frankly it increases the importance of the theme that you've heard a lot about, which is to have a good standard market design. I think it makes it more important.

Basically, we may have time to discuss this later, but my view of this is that any attempt to modify the design of the market in order to deal with market power and get away from the basic principles of the standard market design idea actually makes things worse rather than better. That's the experience so far. So the first thing is to get a good market design in place and by that I mean to focus on market operations, not management of prices.

The basic framework which I've talked about before, and many others have, is to repeat the litany bid-based, security-constrained, economic dispatch with nodal prices, to have bilateral schedules priced at the locational differences, license plate access charges, point-to-point financial transmission rights and market-driven investment. This includes the combined activities of congestion management, energy balancing, ancillary services, and transmission usage, which are all part of a package. The fact that it's a package I think is important to remember because these pieces all fit together in a particular way, and they reinforce each other, and they are especially important to get those things right, and that's the first thing to do.

When you think about the problems of market power mitigation, I think the argument extends beyond the real time structure and goes into the day ahead market and the

day ahead unit commitment and multi-part bidding. That gives you a lot more tools to deal with short term problems that can lead to exploitation of market power. It also makes the bidding more transparent. If you don't have that kind of structure and you can't deal with some of the short-term problems, then a lot of the things we force market participants to do, because we don't give them the structure, are indistinguishable from the exercise of market power, so you can't tell what's actually going on.

The day ahead market discussion that you had here, I think you might make an argument that it's not absolutely required that you make this part of the standard design, but I think if you're worried about market power mitigation, that may be the right thing to do. Then you get into the question is, if you've got a good market design, what do you do to mitigate or reduce market power. And you heard a lot that you don't want to get trapped by the standard of perfection. This is not going to be perfect here.

But the most important things you can do, you can do before you get into the fix. In order to save time here, I'll just embrace Rich Cowart's description of the importance of demand bidding and participation in getting demand side activity in the trading room. And I'll just say amen to that. That's critically important.

Other things being equal, separating horizontal ownership of generation combined with various ways of arranging vesting contracts, the kinds of transition contracts if you go through a restructuring process that you have to get done beforehand. You can't do it after the fact, it's too late. But if you get it done beforehand, it can have a big impact. And there are some other things like including demand curves for ancillary services in the economic dispatch story that I think are innovations that we can use to help mitigate market power.

And after you get finished doing all of those things, and you're into the fix, you still will have in reality, as you've heard, situations where you think you have a market power problem, and I think we know of lots of cases where that's true. Then the question is what do you do there?

What I would emphasize is to try to design the mitigation tools with two ideas in mind. One is that they are consistent with the market design that I just talked about so they tend to use it and reinforce it. Second is that they have some natural transition characteristics so that you can get out of this process eventually because you don't want to be doing this forever. I'll give you a couple of examples of that.

One would be bid caps for standard thermal

generators. The standard gas plants we all know about. And the idea you're familiar with bid caps, I think that's very consistent with the market design. You can let the market clearing price be whatever it turns out to be, but you have bidding rules and bid caps on people who have market power.

I would treat separately energy limited facilities, hydro facilities, and environmentally constrained things that have limits over a period of time because bid caps actually work at cross purposes for those kinds of facilities which are trying to balance how much gets produced and scheduled over time. Hydro is completely consistent with the basic market design, but it does require them to bid anticipating what the opportunity cost of the water is later or the opportunity cost of the environmentally constrained energy or those kinds of things. So you want them able to have some flexibility to do it. I would consider quite seriously exempting all new generators after some deadline when you put these things in place because what you're trying to do is encourage entry. If you say please enter a market where we're going to constrain what you get, you're going to reduce the entry. So while it seems in the short run that it helps, it actually hurts in the long run, so you don't have them constrained by the bid caps. Those are examples we can talk about later.

I also think there are examples of things that

I'm much more worried about. I would give you two there. People have already heard about them. One is spending money to build more capacity and generation than we think we need otherwise in order to mitigate market power or reduce price shocks, and spending money to build more transmission than we think we need otherwise, the kind of thing that Rich talked about.

I know it's an attractive idea and it may be politically incorrect to question the wisdom of these paths but I'm very nervous about these because I see them as a slippery slope kind of problem. If you start thinking through the next steps of how you decide how to do that, and how do you make the tradeoffs and who makes the decisions, you're almost by definition saying we're not going to have a market make this decision, we're going to have some central regulatory, basically you, make this decision, and I think it gets you immersed into a problem that you were trying to get out of in the first place. So at a minimum, I would be very cautious about going down that route.

Rather what I would focus on is good market design. I would include it in your rulemaking to deal with market power mitigation to make sure that its regionally consistent. You saw the problems in the West when you had one set of rules in one part of the market, and a different set of rules in a different part of the market, and to try

to design mitigation mechanisms which are consistent with that good market design.

I'll be happy to talk further or answer questions as we go along. Thank you.

MR. CANNON: Thank you, Professor Hogan.

Professor Joskow?

PROFESSOR JOSKOW: Thank you, Mr. Chairman, Commissioners, thank you for inviting me to be here today. I too have been asked by my employer to make it clear that I'm speaking for myself, not for MIT or any other organization I'm affiliated with.

I've been at this for a long time. I first became interested in competitive electricity markets over 20 years ago with a project funded by the Department of Energy with my colleague, Dick Schmollansee. We published a book "Markets For Power" in 1983, which provided an early perspective on the prospects and problems associated with the development of competitive electricity markets, including issues associated with market power and its mitigation. Since then, I've followed closely the development of competitive electricity markets around the world and along with a group of outstanding graduate students over the last decade, have developed and applied a variety of techniques to diagnose market power and its causes, to measure its magnitude and to examine alternative

mechanisms for mitigating it.

I say this not to toot my own horn or the horn of my students. Other people have also made contributions in this area. But I want to make it clear that this is not a new idea that electricity markets may have market power problems, nor is it necessary to reinvent the wheel when it comes to applying techniques for diagnosis for measurement and for mitigation. I think it's important for the Commission and for the Staff to recognize that and to try to apply best practice that's been used in other contexts.

Electricity has unusual characteristics on both the supply side and the demand side that make market power a particularly difficult problem, and also makes its identification and measurement an ultimate mitigation especially important, since we all have to keep in mind the goal here is to provide a new industry structure that benefits consumers in terms of lower prices, better products, choice of reliability of service.

When I talk about market power, I talk about it broadly. Most of the discussion this morning was about what I call horizontal market power, market power involving competing generators and marketers. But we shouldn't lose sight of the potential for vertical market power problems associated with common ownership of generation and transmission in the same geographic area, nor should we lose

sight of the fact that in creating large regional RTOs, we are creating new monopolies. These monopolies need to be controlled and governed effectively as well. I think this is an issue that has perhaps not received enough attention, and I think it's important we recognize that these are entities with which we don't have much experience. We don't have RTOs for the pipelines or for the railroads or for any other industry, and I think we really need to think through what the governance and incentive schemes are going to be for these entities.

I've long felt that the bulkanized structure of the transmission network in the United States was a major impediment to the creation of well-functioning, competitive electricity markets, and I applaud your efforts to solve that problem. At the same time, I think it's important to recognize that merely creating large RTOs does not mean that market power problems go away. On day one when the Northeast RTO is created, and I believe it will be created, there will still be congestion into the Boston metropolitan area. There will still be 1400 megawatts of transmission capacity between New England and New York. That won't change immediately. Relevant geographic markets and the potential for market power are still going to be more localized in some cases.

Perhaps in the long run, and hopefully in the

long run, the actual relevant markets will change. Let me just make four or five quick points. First, the diagnosis of market power and the mitigation of market power go hand-in-hand. You can't mitigate market power unless you know what it is, unless you've defined it clearly, unless you have methods for measuring it, and unless you can consider exactly what phenomena, what behavioral and structural phenomena you're trying to fix.

Moreover, I think it's only fair to market participants that they have clear rules and a clear understanding of what kinds of structures, what kinds of behavior and what kinds of performance are going to raise concerns and lead to mitigation.

Second, I think everybody whom I've heard today has agreed that ideally market power and its mitigation should be done structurally. Ideally, it should be done before competitive markets begin operating, and I'll endorse the kinds of structural features that the previous speakers have identified as being very, very important in ensuring that markets are structurally competitive, and there may be more. However, for a variety of reasons, and these reasons include politics, they include feasibility, they include uncertainty about what's the right thing to do, we can't mitigate all potential market power structural problems ex ante before markets begin operating.

Market monitoring, continued improvement of market design and market behavior are going to be a necessary attribute of electricity restructuring and competition, at least for the next few years until we get it all right. In this regard, this comes to the question of what market monitoring and RTOs can do. There are going to be some tradeoffs here between the speed of response, that is, how quickly market power problems are identified and mitigated to remove the burdens on consumers, the disincentives that may be created by changing the rules of the game after the game is started, that can provide disincentives to suppliers as well as to consumers making demand side investments if they are uncertain about what the rules of the game are. And finally, are there due process considerations of giving fair hearings to market participants who are dinged for one reason or another for behavior that is determined to be inappropriate.

My ideal model has each RTO with an independent market monitoring entity with its own staff and its own advisory board, an advisory board composed of experts from a variety of different disciplines. I would like to see each of the regional market monitoring entities interacting with a staff here at FERC made up of experts, economists, auction theorists, financial engineers, individuals who've had experience in marketing and selling electricity and other

commodities, and that these entities at the regional level and at the FERC level interact on a continuing basis. I think this is important in order to make it possible to respond quickly and effectively to market power problems as they emerge and to separate responses that can reasonably be made quickly from those that require much more extensive hearings.

I realize this will require perhaps hiring additional staff or redeploying staff, but I think the task of this Commission today is far different from what it was ten years ago. I think we need to understand that the Staff resources that are required to make markets work well are going to be different from the Staff resources required when we were regulating wholesale transactions.

Thank you.

MR. CANNON: Thank you.

Bob?

MR. NORDHAUS: Thank you, Mr. Chairman, members of the Commission. I'd like to share with you some of my thoughts largely derived from having served three years as a member of the California Independent System Operator Market Surveillance Committee. I was the lone lawyer surrounded by economists on this committee, as I seem to be on this end of the panel, and it was actually quite a refreshing experience, at least that aspect of it.

(Laughter.)

MR. NORDHAUS: These are personal views, similar to the disclaimers you've heard before, not of my employer or its clients. I'd like just to give you a couple of thoughts here.

First, I completely agree that the first line of defense in mitigating market power is adequate market design, price responsive consumer demand, easing barriers of entry into generation, but it's not always going to work. So you've got to do more, market monitoring is not enough. Our experience was on the market surveillance committee we issued some seven reports beginning in October 1999, which were sent to the Board and to this Commission identifying significant and growing market power problems in the California market. But the ability of the institutions to respond to this was limited and I think slow by any measure.

But I think as you look at what needs to be done to improve both the response time and the quality of the response, a couple of things become apparent. First, that it's important to have an independent institution. A stakeholder board doesn't work, it paralyzes itself, can't get anything done. Secondly that as we look at how all of this unfolded, it's clear, in retrospect, that waiting until almost a year after the price explosion, then imposing rules prospectively going back and starting up refund cases, is

not the way to do it.

As we look at how to deal with this type of problem in the context of the new RTO institutions, it seems to me that one of the key requirements for an RTO is to have in place, before it starts up, a market power mitigation plan, the tools to do it, rather than discovering you've got a market power problem, and then figuring out what to do bout it.

Secondly, I think that the mechanism by which, at least in California, market power issues were dealt with, which was through tariff changes, simply doesn't work. The process of preparing the tariff amendment, filing it with the Commission, going through notice -- sometimes notice was waived -- and deliberating on it doesn't really work.

I think what the Commission ought to consider is, once it has fully independent RTOs, a system by which the RTOs can issue emergency rules that are effective prospectively, stay in place for 60 or 90 days, are filed immediately with the Commission, the Commission can allow them to be extended, but I think the RTOs need to be equipped to act quickly and prospectively to deal with emerging market power issues.

I think you have the authority under the Federal Power Act now to vest that emergency rulemaking authority in the RTOs as long as it's in the tariff and you supervise.

I'd also mention a couple of other things that are important. One is I think the Commission needs to very carefully integrate its policies on market-based rates. And what happens if somebody flunks the screen with how the RTO market power mitigation mechanisms work? Simply going back to cost-based rates if you flunk the screen won't work in a lot of these markets. You've got to have a more sophisticated mechanism.

Finally, I'd like to say that I think a lot of trying to vest the entire burden of market power mitigation in the RTOs may not be workable. We don't know at this point how many markets RTOs will be running. It's not necessarily the case that all of them will run real time energy forward markets and ancillary services markets, although that might be the best course. Secondly, there are a lot of transactions outside of these markets, even if the RTOs run them. Third, there are seams issues. If you have suppliers that can sell into more than one RTO, you've got to make sure the rules are consistent or the sale will go into the RTO that has the least stringent market power mitigation rules.

So I see those as some key issues for the Commission to look at as it goes forward in devising its RTO policy and market power mitigation for RTOs, and I would be happy to respond to any questions also.

MR. CANNON: Thanks, Bob.

Dave?

MR. PATTON: Good afternoon. I appreciate the opportunity to speak with you all today. Just by way of background, I've worked as the independent market advisor for the New York ISO for the past two years, and for the New England ISO for just a few months. What that basically means is that I'm an independent market monitor is probably a more accurate title, and certainly have some views on independent monitoring versus RTOs engaging in a monitoring function internally. I think there's a role for both of those.

This morning, you heard Charles Cicchetti say that the market monitor should be a lean, mean fighting machine. That disturbed me a little bit because I think I only meet the lean part of the description.

(Laughter.)

MR. PATTON: Nonetheless, with regard to market power and monitoring and mitigation, the approach in New York is somewhat different than it is elsewhere. One thing I want to do is draw a fairly clear distinction between natural mitigation versus explicit mitigation measures. I think what you're considering in terms of an RTO rulemaking is explicit mitigation measures. We've heard a lot of talk about how the best way to mitigate market power is to

address structural issues so that if there's transmission constraints that economics will alleviate that can create market power and a structural remedy is to remove the barriers to expand the transmission. If there are barriers to building generation that's another alternative. Divestiture falls in that category.

Fixing the market rules. I actually find that sometimes when we talk about monitoring and mitigation, there's a presumption that most of the focus is on market power. It's really not. Probably 80 percent of the time in my experience that you find a generator bidding anonymously. It's related to poor incentives the generator is receiving, number one, and in that case, it's far more beneficial to find the root cause of that bidding behavior and to fix that than to assume it's market power and impose restrictions.

Secondly, it's often the case, and Bill Meroney alluded to this, I don't have enough time to elaborate on it, but its often the case that simplifying assumptions that economists make about what constitutes a generator's marginal costs are actually not correct for some segments of resources. So if you stick too closely to a variable cost standard for evaluating market power, you can often lead yourself to an erroneous conclusion.

Now with regard to market power, I think that there is some confusion when we talk about market power or

electric power and other markets. It's either there or it's not there. When it is there, there shouldn't be a presumption that you should do something about it. And that's what causes some of the confusion. Market power exists in virtually every market, whether it's electricity or other market, some level of market power, but it's far too costly to pursue a policy of eliminating all market power, and it would have a number of other undesirable consequences.

So the goal I think ought to be, and this is why, by the way, the economists talk about workable competition, although it's difficult to get two economists to agree on exactly what that is, but in any case when considering should RTOs have mitigation authority, it is my belief that there's a couple of things to consider. One is that mitigation generally falls in two categories; retroactive mitigation (trying to deal with it after the fact), and prospective.

To the extent that mitigation can be prospective, it is a tremendous advantage both for the market and the market participants because what that allows you to do is to allow competitive market outcomes to emerge rather than allowing distorted price signals that you try to deal with after the fact, and it's inevitable that it's difficult or impossible to deal with that after the fact. Most of the

retroactive mitigation options, by the way, in the context of an RTO rulemaking, would fall I believe within the scope of the FERC to implement.

The possible exceptions are penalties. If you can establish very clear thresholds and standards for penalties, it's often the case that the easiest way to establish those at appropriate levels is to attach them to make them contractual penalties that have to do with participation in the RTO markets.

As far as the mitigation principle, I think the one thing that you ought to consider, in terms of should the RTOs have real time mitigation measure authority, and I don't think it's appropriate in all RTOs, I think it's case specific, so it's probably not something that you can or should standardize. But the principle should be that the mitigation should not affect suppliers that are behaving competitively, number one. And that goes to what your thresholds are to identify market power, and what you do, once you think there is market power, in order to constrain the actor who has market power from exercising it.

Number two, to the extent possible, your mitigation measures should not override the functioning of the market. This is one reason why I think price caps are one of the worst ways to try to deal with market power. The problem there is, and I think it would be better discussed

in terms of the question and answer period, is if you set them too high, they don't do a very effective job in eliminating the transfer of rents, which is what you worry about under market power. And if you start lowering them, they infringe on the first principle, which is not to affect the generators who are bidding competitively. And by the way, thousand dollar bids from generators are often competitive bids.

But this those brief thoughts, I think it would be better for me to turn it over and elaborate in any questions.

MR. CANNON: Thank you, David.

Dick, you've had your finger on that button for ten minutes now. Go ahead.

MR. O'NEILL: Not quite. But I heard I guess a lot of negatives in the opening remarks on after-the-fact mitigation. Are there any positives?

(Laughter.)

PROFESSOR JOSKOW: Why don't you define after-the-fact mitigation.

MR. O'NEILL: The prices are too high or the Commission decides the prices were too high, then they try to do something about it.

PROFESSOR JOSKOW: Going forward?

MR. O'NEILL: I mean the prices were too high, so

now they have to go back and figure out how to fix what had happened, which is to mitigate the market after the fact.

PROFESSOR JOSKOW: I'm not sure I understand what you're saying. If you're saying should we ignore all historical information about the behavior of the market to make judgments as to whether there are market power or other market performance problems, the answer is no. The only data we have are historical data. If you're asking me should we have a regime where we have the Mach 2 version of rates going in subject to refund, my answer is, we'd like to avoid that because it's not compatible with competitive markets, if we possibly can.

That's why I think we should have a system and administrative procedures in place where we can respond quickly and effectively to serious, and I want to reinforce what David said, to significant market power or other types of market performance problems so we don't get ourselves into the obviously difficult task of reconstructing history, trying to figure out what the just market price was and then trying to figure out who owes what to whom. That's something we all agree we'd like to avoid that.

MR. O'NEILL: Do we all agree?

MR. NORDHAUS: It seems to me I'm totally in agreement on that. I think there could conceivably, first of all, adjustment the day after as opposed to an adjustment

nine months after is obviously better. Secondly, there could be circumstances where your market rules simply don't work, the market gets out of control, and by the time you figure out how to rein it in, there's been a lot of rents transferred that you don't think should have.

But it seems to me that, at all costs, avoid the type of situation the Commission and everybody else got into in the Western States markets, where you're trying to reconstruct nine or ten months of transactions and change the flow of billions of dollars. Even if you knew how to do it, it seems to me that the members of my profession will find ways to frustrate it.

(Laughter.)

MR. NORDHAUS: So it's not going to work.

MR. COWART: Can I comment on this? I'm going to echo everything you've heard so far about being reluctant to do this, and doing it only when circumstances really seem to call for it. To intervene long after the fact, to mitigate market power and reverse the payment of rent, but FERC does have a responsibility to ensure that rates paid by customers are just and reasonable, and you can't just walk away from that by saying, oh, well, we didn't catch that one. It happens to be one of those ones where some time has passed and billions of dollars have changed hands.

Because it's so big we can't fix it shouldn't be

your standard. That said, I'm going to echo what the others have said about getting -- making sure that you have systems in place that can respond quickly so you're not in that box. But I wouldn't announce in advance, by the way, if you get away with it for six months, it's your money.

MR. HALL: Richard kind of said what I was going to say but just taking the comments from Mr. Nordhaus, I think the key here to prevent us from getting into that system is speed. Certainly in California, as he indicated in his efforts with the market surveillance committee, they recognized flaws several years before things really began to fall apart there. But there was really no mechanism to move that through a system. You had a stakeholders process there with 24 board members, a lot of divergent, different opinions on how markets ought to operate. It got us bogged down in the details and we could never get to a solution.

Again, part of that gets back to my comments at the opening. Getting it right up front and making sure we've got a process in place that allows us to move expeditiously, which then prevents us from having to go in after-the-fact.

MR. PATTON: I want to echo that. The after-the-fact is clearly inferior, except to the extent that it gives better incentives before the fact. I don't think what you want to do after-the-fact is try to undo things and somehow

make it right. I think what you can do after-the-fact, what you're limited to in terms of some of the conduct that you see, is an after-the-fact response that's going to provide a deterrent before the fact so that you don't see the behavior in the first place.

An example of that is physical withholding as opposed to economic withholding where somebody may raise their bid significantly in order to raise the price. If they simply take their resource out of the market by claiming it was technically unavailable, and you find out three months later it wasn't, you really can't do anything but address it after-the-fact.

More I think the goal should be not to try to collect enough money that you can pay the loads and try to make everyone whole. What you want to do is have a penalty structure that's going to be a sufficient deterrent that they don't do it in the first place.

PROFESSOR JOSKOW: Could I just add something on this point because it came up this morning. I agree completely with what David said, but I also think in that kind of situation, it should not be confidential; it should be public. The reason it should be public is for the deterrence value so that others know that this is the kind of behavior that's not acceptable. We're not going to have a system where everybody gets a crack at arguing about the

behavior. We can set up some areas where there are per se rules and make that clear. I think we're going to induce much better behavior by making clear what the rules of the game are.

MR. PATTON: I just wanted to respond very quickly to the confidential notion. I think that in theory, you're right. That disclosure will send a powerful disincentive to that behavior. The problem in practice I think is that these issues are very complex and the disclosure should happen after the finding is made with adequate due process which probably means it should come to the Commission first, and have a finding made there. Because if you have a market monitor who is compelled to disclose its findings, then it makes it very difficult to get any information out of the participants, even if by rule they're supposed to give you information.

PROFESSOR JOSKOW: But ultimately if the behavior is prescribed, it becomes disclosed. But you don't get tried in the Boston Globe, I guess. And I agree with that.

MR. HALL: Just again for somebody who operates assets in the West, and experience in California, my concern with the disclosure is that we all get branded then, and we just need to be careful in terms of how we reach that conclusion and the manner in which that information is released. We don't want to brand the whole industry in

terms of potentially somebody who's strayed far.

MR. GARVEY: My response is I'm not sure. Up front is probably better than after-the-fact but I don't think this is an either/or question, that you need both. In fact, my initial response is, if we're so afraid of doing back end mitigation that we load everything up front, to make it really hard to do stuff, that would be bad. That would be the downside to saying, we're going to load everything up front so that we don't have to worry about the back end.

I think we need to understand that we want to manage up front as much as we can, but we shouldn't be afraid to do back end, and not load so much up front that it becomes chilling.

MR. MEAD: Professor Joskow mentioned in his opening comments that diagnosis and mitigation need to go together. I was wondering whether I could get some feedback about the specifics of the diagnosis. What should we be looking for that would identify that there is a potential for market power or that market power is being exercised? What sorts of triggers? What sorts of screens? And when somebody flunks that trigger or screen, what specific mitigation should we be considering to remedy the problem?

PROFESSOR JOSKOW: Thank you, David.

As you know, there are a variety of indicia of

market power that we can look at. There are structural indicia like the number of competing firms that are in the market, there are methods to simulate, however imperfect, what competitive prices would look like, to see how far from the ideal we are, not to ding anyone for not being at the ideal, but looking at how far from what we expect competitive prices to be. Bidding behavior that looks like it's designed to affect market clearing prices rather than price taking behavior. Economic and physical withholding behavior I think are hard to distinguish from one another but basically facilities that aren't supplying when it looks like its economical for them to supply. Those are the kinds of indicia that one might look at in general.

In particular circumstances, depending on the particular rules and the particular market, you may find specific loopholes in rules, over-scheduling, pre-scheduling of supplies on particular transmission lines that create an opportunity to affect real time prices because of an imperfection in the rules. I think you need to understand what are the factors that are leading to the market power problems, once you've concluded that they're significant. Then look at the options available for dealing with them.

In some cases, merely having a rule that would say, well, if it's 150 megawatt line, you really can't offer

the schedule of 2000 megawatts on that line because there's something fishy going on there. Or there may be rules about offering capacity to the market under certain conditions if there appears to be significant withholding. Or in the extreme, if we conclude that there are serious structural problems like the absence of a demand curve in the market, too few suppliers in a constrained area, we may need bidding rules, we may want to encourage forward contracting. There are an array of fixes at our disposal and I think the idea is to choose the fix that is the least intrusive into the operation of the markets. And to the extent it's a structural problem, to work as quickly as possible to fix the structural problem.

One of the problems, as we know in California, was some of these structural problems are jurisdictional structural problems. You can't tell a state that you've got to have a demand side necessarily in the market, or maybe you can. I won't make a judgment as to your legal authority but I can tell you that Rich Cowart is absolutely right. Without a downward sloping demand curve, without demand elasticity, you are going to have problems in all of these spot markets unless there's very substantial contracts covering the market, and that may be the short run solution, to require that there be substantial forward contracting in the market before granting market-based pricing.

That the goal should be to get a demand curve in the market so customers can say no when prices get too high, just the way you can say, no, if you go into a luncheon and they tell you a hamburger is $50. You go, you buy a tuna sandwich if that's $3. So I think you've got to tailor the mitigation to the problem. That requires that you folks and the market monitoring entities define what market power is, what the indicia you are going to be looking at, what is significant, how big a problem does it have to be, and what the sources of this are, and then work the mitigation off of that analysis.

MR. KELLY: I have a question that follows up on comments made by David Patton, Robert Nordhaus and Paul Joskow.

David, you said that you would not set by rule what market power mitigation an RTO should do; you'd make it case-specific for each RTO.

Bob, you said you would give an RTO the authority to issue emergency rules for 60 to 90 days.

And Paul in turn said, I think it was Paul, not enough attention has been paid to RTOs being the next big monopoly that we need to control.

The three questions are related in my mind. David, the question for you would be, why wouldn't you do it generically? What's different between the RTOs? Is it

merely the ISO transco or is something different?

Then for Bob, would you give the same rule to a transco type RTO the same authority as you would to an ISO-type.

And I guess for Paul, would you worry about this new big monopoly having the kind of power that Bob suggests that we might give it.

MR. PATTON: Let me answer that question and also answer Dave Mead's question which I thought was a very good one, starting with Dave's question about thresholds and identifying market power and then explaining why perhaps standardizing is not what you need to do.

What I suggested in my opening remarks were some principles for mitigation to address substantial or maybe what I'd call excessive market power. What you find in electric markets is the nature of the costs of the supply in the market make prices relatively unresponsive over the vast majority of the hours. That's why I said you just can't say there is or isn't market power. It changes. It's dynamic and it can be created by transmission constraints that isolate part of the system or under peak conditions when a supplier that doesn't have an obligation to serve load or isn't tied up in forward contracts for his capacity, may have the ability to drive you to a scarcity-like price artificially. What does that imply about the thresholds?

My opinion is for the most effective thing that you can give an RTO to deal in real time with economic withholding to allow markets to work, and it makes it nearly invisible, is to set a benchmark that is related to the generator's marginal costs. I don't suggest variable costs for all generational. In New York what we use as a benchmark based on the accepted bids of the generating resources, and what we have found is that the competitive discipline in most of the hours when prices are relatively unresponsive have led to benchmarks that are very close to what you would expect in terms of close to variable costs.

But for those portions of the units who have costs that far exceed their variable costs for the reasons that Bill alluded to in the opening remarks, that there are other factors included in a generator's marginal costs. It protects them as being identified as having the exercise of market power. Once you have the benchmark, since it is excessive market power that you're trying to mitigate and avoid interfering with competitive bids, which can have other undesirable effects like the generators not offering the resources that they're worrying about being mitigated below their marginal cost, is applying a relatively generous threshold.

In New York, we apply $100 a megawatt hour. That's usually double or triple what their variable cost is.

But it's fine for addressing price spikes. To generate a price spike with economic withholding, you need to raise your bid substantially more than that. And when you see that, since you are focused on the spot market that the RTO is running, and if you get that right, that's going to discipline all the other markets that price themselves relative to that. Then you will have effectively mitigated market power.

So the other side of the test that is extremely important in New York that isn't applied elsewhere where there is explicit mitigation measures is a test on impact on price, because even with a high threshold, there are many reasons why generators will raise their bids. We see it day-in-and-day-out in various quantities. In almost no cases does it have any material effect on price because of the nature of the supply.

When you're away from the peak and there aren't transmission constraints, RTOs don't have to rely on market concentration measures and other things that attempt to get indirectly at market power. They're running the market. They can test in real time what the effect of a bid is. And if you're mitigation is tied to an effect on price that is significant, what that does is focuses your mitigation on a very small number of hours, and doesn't subject the market to the risk of inefficiencies that would result from

excessive interference in the market.

So for both of those reasons, I think the New York model is a relatively good one, and has been effective. As far as why I believe that perhaps standardization is not required, it's that I think while having mitigation measures that are narrowly and well-defined, is not a bad idea because where you don't need them, they'll never apply because you won't see the price impacts.

I think the situations you have in various RTOs are somewhat different and there are likely places in the country where you don't need the RTO to have mitigation authority. And it's for that reasons, standardization isn't required, although it probably wouldn't be harmful as long as the mitigation measures are not intrusive.

MR. KELLY: Could you be a little more specific? I was trying to understand why would a generic rule not work. You say RTOs are different, but in what way?

MR. PATTON: It's not that it wouldn't work given these principles. But for example, having suggested that market power is an issue, when you get close to the peak or when there are transmission constraints that isolate an area, if you're covering an area where you don't have the Boston situation, you don't have the New York City-types of problems where you have a relatively severe transmission constraint that isolates small areas and where capacity

shortages are not a problem because there has been sufficient expansion, then in those areas I think there's nothing wrong with starting the markets without the mitigation measures in place. And then if there's evidence that you need mitigation, based on that evidence you can propose it. I think that's essentially what's been proposed in the Midwest.

COMMISSIONER MASSEY: Can I just challenge one point? You may think everything is going to be just fine, but why shouldn't the RTO have it in its hip pocket so that you can use it? It sounded to me like that's what you were saying because it might take 90 days, 120 days to make a filing and get it approved by this Agency.

MR. PATTON: Two issues with that. With relatively high thresholds, so that you're addressing a substantial market power that may be short lived, but nonetheless may have a substantial effect on revenues on a year-to-year basis, I think that if you design the mitigation right, and you give the RTO that authority, it will not be harmful because it will never be employed. So you've got to be very careful about what the triggers are and make sure that the triggers correspond to situations where you really do have market power.

It's not that I would advise you not to have a standardized mitigation measure, but that you may have

specific problems in some areas related to the topology of the transmission system that have to be addressed somewhat differently. So standardization may not work, and there may be some places where you don't need it, to have it in your hip pocket.

But what I am assuming when I say that, and when I say that mitigation with relatively high thresholds makes sense, is that there are many other forms of conduct that need to be mitigated but the form of that mitigation should be that the market monitor or the RTO makes the 205 filing and can get it acted on relatively quickly by the Commission. You know, we've talked about how market monitoring needs to be comprehensive, including the actions of transmission owners, distribution companies and load serving entities. There are many different things that potentially would need to be mitigated if they behaved strategically, and we monitor for those things, and because there will always be things that need to be mitigated that can't be addressed with a mitigation measure up front, the Commission would be well advised to have a process by which it can act quickly on 205 filings.

And so when I made the assumption that an RTO could go in place without the real time mitigation in its hip pocket, I'm assuming that if evidence were to arise that market power is an issue and you do need that type of tool,

that it could be created relatively quickly. That may not be a good assumption.

MR. MILLER: Let me ask a question. It sounded like during the opening statements, we had some consensus. We won't have consensus on the fine points, but it sounds as though most of the folks on this panel want to go after mitigation, you know, structural mitigation. When they think of mitigation, the first tool out of the toolbox should be things like making sure that there's demand response, making sure that you have, that you're able to demand price curves very transparent and that sort of thing.

Am I pretty close on that? No?

MR. NORDHAUS: I think all of us agree that that's the first line of defense. But certainly, as far as I'm concerned, I think that you are inevitably going to have situations where the structural measures are not enough. That's why I would recommend that a standard part of your RTO, your package for what an RTO has to do in order to be an RTO, is it has to have up front, before it starts operation, a market power mitigation plan, and a mechanism for quickly modifying that plan as circumstances change.

It seems to me unless you have identical markets, you can't have identical market power mitigation, so you can't standardize mitigation until you standardize markets. But beyond that, I think it's crucial that you get your RTOs

to focus on what they're going to do when they find out they are having a problem with market power, before they start operation.

PROFESSOR JOSKOW: Let me just be clear as well. In an ideal world, I do all these structural things ex ante at the beginning and then let the markets begin to operate, recognizing I might have to make some small changes. In the real world, we don't make all the structural changes up front. As a result, we're going to have to, over time, deal with market performance problems of a variety of different types; some market power, some just market design flaws which may have structural fixes but it's going to take time to implement them. It may take time just because it takes time; it may take time because you have to get five states to agree to make changes. In the interim, I don't think it's reasonable to just say well, we're going to have to live with that and let consumers suffer. We're going to have to have some kind of a mitigation program until we can put the structural fixes in.

In the long run, we'd love to have these markets structured in a way where we have very, very little in the way of regulatory intervention or market monitoring. And I think the long run hope should be that these markets are eventually structured and mature in a way where we can rely on the antitrust laws to guide competition.

MR. MILLER: Here's the question then. If we want demand to play a more significant role in these markets, which I think everyone in here agrees on, if we want some more localized solutions to market power, for instance, environmentally-sound distributed generation to come about, doesn't that seem to require some exposure to prices which we heretofore have not seen fit to allow customers of any variety to be exposed to?

MR. COWART: I'd be happy to take the first cut at that. First, I want to reassure you that there is a lot of consensus on this panel on all the answers that you just heard. I think about getting the structure right in the first place, getting market monitoring and mitigation plans ready so that you can act when you need to, then also being able to act and willing to act to remedy wrongs when they're found to have occurred.

Now you're asking a more precise question about how do you activate the demand side. There are a variety --

MR. MILLER: Or if you mitigate, are you going to allow the demand side to occur?

MR. COWART: If you mitigate too much and you mitigate inappropriately, you may end up dampening price signals that would be structurally sound. But there are a variety of mistakes that can be made in this arena. Some people have pointed out that price caps that are too low,

for example, have that effect. Similarly, transmission subsidies that are too high have that same effect, and ancillary service rules that exclude demand side response from providing reserves have that same effect.

There are many different ways that we have to look out for, that we can stand between demand side and distributed responses and efficient markets. My response to your question is to basically agree with the premise of your question, which is that we have to allow the value of demand side and distributed responses to be felt and seen and realized in the market, and also that there are other things too that we have to look out for.

MR. HOGAN: I think it's important to remember that what you want is customer exposure to the market prices on the margin. This is not the same thing as saying that you have to have the customer completely dependent on spot prices or spot markets. And so Kaiser Aluminum had contracts for cheap energy and they had access to the market. They weren't in a system where they were precluded from doing it by administrative rules, so they went around and effectively resold the energy back into the marketplace, reduced their demand, and that was one of the things that helped in the Northwest. They were able to respond.

That was a demand side response, and a very important one. You want as much of that as you can do in

various ways. And then when you package it with contracting and hedging opportunities that are not administrative rules, that say for free you get this power at a fixed cost, you don't have to pay for the cost of that hedge, you don't have to pay for the cost of the extreme option when it's out-of-the-money kind of situation. Then these things can work.

But if you have, such as we had in California, the kind of retail pricing and exclusion of people from that marketplace, where you give them that option, they can always go back to the retail fixed cap, that destroys the whole thing again.

MR. MILLER: What I meant when I say exposed to price, I don't mean exposed to price and your only option is the spot. Let's say customers are able to procure energy in any kind of portfolio that they want. It's a combination of long/short and the people doing it are pursuing other options to make sure that they're covered too.

Even then, we have certain episodes of market power being exerted which reflect themselves and then are reflected in high prices. I guess this also gets to how temporal they are too. You know, one theory is that you allow the exposure to this market power to continue for some period of time so that you get other responses. Otherwise, it's difficult to see the argument's been made that under those circumstances, where there's a mitigation that's

imposed and prices are lowered because demand sometimes doesn't play except at very high levels, that you don't get a demand response.

PROFESSOR JOSKOW: I'm going to speak from New England because I spent a lot of time talking to the governors and legislators in New England for the past 18 months, especially because of what has happened in California and because five of the six states have restructured and divested and so on. They wouldn't find that to be acceptable that we're going to let suppliers exercise market power, substantial market power as an incentive mechanism, to get regulators often as well as marketers and consumers, to install real time metering and communications and control technology.

I think that this Commission needs to work with the states, with the understanding that the performance of wholesale markets depends on the retail procurement and pricing regime that exists. And that it's in everyone's interest, whether it's a state that's adopted retail competition, or a state that's decided not to adopt it, that real time pricing, real time metering facilitating real time communications and control technology has got to be a part of the retail regulatory and competition regime and that's something that needs to be put into place quickly.

I think you're right in the sense that many default service and standard-offer contracts and arrangements did not adequately anticipate the need for an active demand side. We've got to go back and work with the states, which often have made complicated agreements with these facilities, to see if we can do something that makes everybody better off.

If it makes everybody better off, we should be able to move the money around in a way that makes them happy. Here's a place where the jurisdictional separation between retail and wholesale, if it's not handled effectively, can lead to real serious performance problems in these markets.

I think the experience in California gives us all an opportunity elsewhere, because the theme in New England, anyway, is we want to make this work. We've made the commitment. We've gone too far to go back. Tell us what we have to do to avoid what happened in California. I think we can make a lot of progress around the country, because people have learned a lesson and don't want it to happen there.

But it's going to require, I think, some significant effort on your part to work with the states to explain why this is necessary.

COMMISSIONER MASSEY: Can I just shift gears to a

subject that's been on my mind? Because I just read this article in Platt's Power Markets Week. It's actually a very lengthy article.

The focus of it is on the issue of whether a trader that just deals with financial transactions, that doesn't own any physical assets, can actually exercise market power with respect to the physical delivery of power. In other words, can you use your expertise, control of information in financial markets to actually move prices, to exercise market power in physical markets?

I think I stated that right.

PROFESSOR JOSKOW: My answer to your question is, in principle, yes; that could happen. If two power marketers -- this may be an unlikely example -- were to enter into contracts with all of the generators in the region, and those contracts gave it the right to dispatch the plants over the coming two years, they would control the supply in the region.

It's for that region, when we talk about suppliers and market power, that I think we can't just refer to generators. The generators may be completely passive. They may just be turning gas into electricity at the instruction of a marketer, and I think a market power analysis evaluation, at least by the market monitors, needs to understand the contractual arrangements that tie up power

supplies and give control to marketers, and take them from generators.

MR. O'NEILL: Let me clarify something Paul said.

When you say, give them dispatch control, you mean both to dispatch and not to dispatch?

PROFESSOR JOSKOW: Precisely.

COMMISSIONER MASSEY: But if they don't have the power to control dispatch, you see this as a red herring?

PROFESSOR JOSKOW: Let me again give a different contract. You could have a contract that I get the first option to dispatch the power, preschedule a day, and if I don't by 65 minutes before the hour, you're free to do it as the generator. That would be something where I think there'd be less of a problem.

My only point is -- and this is a response to some comments that were made this morning -- the contractual framework involving marketers is not irrelevant to the competitive behavior in the market. And there may be contractual arrangements that can adversely affect competition, just as there are many, many contractual arrangements involving marketers that have a positive effect on competition in providing risk management and other services to consumers.

MR. NORDHAUS: It seems to me if the marketer has the ability to control output, then he or she has the

ability to set price. That's what you're concerned about. If there's no control over output, then it's hard to see how somebody without any physical control over the assets could do too much damage.

MR. CANNON: Is that something that FERC should be worried about, or RTOs should be worried about, in terms of setting rules for how marketers contract?

PROFESSOR JOSKOW: I'm going to respond very precisely to your question.

I was very surprised in the documents I received that all of the discussion of wholesale market power focused on generators. It seems to me that to understand what's going on in electricity markets -- just like in a coal market, by the way, which I've studied extensively -- you also need some understanding of what the contractual arrangements are that commit physical supply to intermediaries, marketers and others.

My guess is in most cases there's not a problem there. But if you were going to do a complete analysis to understand the structure and dynamics of the market, you'd want information about both what the terms mean that involve control and the ability to supply power from facilities.

MR. CANNON: And the RTO should be doing that?

PROFESSOR JOSKOW: This Commission should do it. It does market power evaluations. I think it's something

that market monitors should be able to look at as well, in the course of their business of evaluating the performance of markets, and understanding why, if they are, why they're finding that there are market power problems.

MR. CANNON: Professor Hogan?

COMMISSIONER MASSEY: David Patton wanted to comment on that, too.

PROFESSOR HOGAN: This is a follow-on to the clarifications that have come in the last couple of minutes.

I read this article too, Commissioner Massey, that you're referring to. I thought it was quite muddled, to tell you the truth. It didn't make this distinction between whether or not you had any control over the physical asset and how it was used, versus just strictly financial arrangements, and I think it's a critical distinction.

If you have control over the physical assets, as Paul and Bob have talked about, then you're like the generator. You have to look, however -- it's a separate question -- you have to look into the trading and contract market in order to understand what's going on, particularly when you're talking about the motivation of the generator.

Suppose you have a generator. I designed it. It's the perfect vesting contract they're selling to the customer, and then they go out in the marketplace and they sign a whole bunch of other contracts as a trader, which

then they can make money on if they could lose money on the vesting contract but raise the price in the marketplace.

It's easy to construct an example where that would be the case. They would have those incentives. You definitely have to look at all of these things to see what are the incentives for the person who has physical control over the asset, and one of them is, who is it. Is it the generator or is it the trader, because of the contract. And secondly, what are there incentives? That may require you to look at the whole contracting market.

But the financial transactions in and of themselves don't create the market power. And that's the part I think was confused in that article that you referred to.

MR. PATTON: I think I would echo everything that's been said. The focus on generators, while that may be inappropriate, focusing on generation is appropriate, and I think what you're hearing is: to detect generation market power, you should be focused on how the generation is being operated. And what you're looking for is economic or physical withholding.

If the generation is being withheld, then you're into a realm of trying to understand why: whether there's a marginal cost explanation for why they're not running, or whether there's another factor at play.

I think with regard to the mitigation I propose that the Commission adopt, with the conduct and impact test, you don't get to that. Most economists will tell you, the definition of market power is the ability to profitably raise price. The mitigation measure I've alluded to eliminates the notion of profitability, which makes it someone different in standard to the antitrust standard for market power.

The reason that's the case -- I'm not saying that's irrelevant. But the only way to determine profitability and to get to motive, if that's going to be your threshold for taking action, is to get all information on both physical contracts as well as all financial contracts, and figure out what the ultimate position of the person controlling the generator is. While that might be necessary in some contexts, I don't think it's necessary for the kind of narrowly-prescribed mitigation measure that I have proposed.

So in general, I haven't in my experience felt the need to acquire significant information on financial contracts in particular. We have asked for information on any contracts that would give an entity other than the owner the ability to control the dispatch or bids of the units.

MR. KELLY: Do you also have to look at joint control over generation and firm transmission rights, and

how those interact with one another -- and why not, David?

MR. PATTON: That again goes to profitability. If you're going to do a profitability analysis, you would need not only to know what their holdings are in the TCC market that the RTO runs, but what other private contracts they may have, and derivatives that will benefit by a change in price.

If you focus your analysis on the behavior of that entity, with regard to how it's dispatching the generation -- in other words, you're looking for withholding, and that withholding is either causing congestion or causing a price spike -- then at that point you may choose to do an investigation of whether somebody is profiting by that. That is necessarily, I think, a very difficult thing to do and requires the collection of a vast amount of information.

So it's not irrelevant to getting at the motive of the participant, but I think it's not something you can implement in terms of a real-time mitigation measure.

PROFESSOR JOSKOW: You've given an opportunity a professor always wants. I've written a paper on this with Sean Turow. We go through how control over transmission rights, both physical and financial, can interact with control over generation to enhance market power. It has cases where you get no effects and cases where you do get

effects.

I think it's a little bit more of a problem with physical transmission rights, because of the withholding problem that you don't have with financial rights. You can try to fix that with a use-it-or-lose-it rule. If you don't use it, someone else then can use the capacity. But there are interactions there that I would think would require some attention by the market monitor, and I should note that this is an issue that the California ISO, the Department of Market Analysis that Anjali represented this morning -- this is something they have looked at as ownership of transmission rights, and how they've changed and where there might be potential problems with that.

MR. MERONEY: I would like to at least mention that this is a problem that we're very -- maybe even, so to speak, painfully -- aware of from California, and actually very publicly in the way we dealt with control of the generation by one company where it was owned by another, and that we really did have to work through in great detail the various incentives. And it was critically important.

MR. NORDHAUS: I think on that, one of our concerns on firm transmission rights was whether there should be position limits. I think it really depends on what the firm transmission right entitles you to, and if it entitles you to physical rights and you don't have a use-

it-or-lose-it rule, then it seems to me you need to very carefully monitor what's happening in the secondary market to make sure that you don't have situations where somebody can control transmission across a critical path. Because that can have significant impacts on generation market power.

MR. PATTON: Just to clarify briefly, I don't disagree with those answers. In the realm of market monitoring it is an analysis which you may want to do, and probably would want to do, especially in the case that they were talking about where you had transmission rights that give you certain physical rights on the system that may be used in the context of strategic behavior to affect the markets.

But in terms of mitigation, my focus on excluding the profitability analysis was directed specifically at imposing real-time mitigation.

MR. O'NEILL: Just as a clarification, when you say use or lose, that translates into no withholding of physical transmission.

PROFESSOR JOSKOW: I think what you're hearing from most of us is in the end, if you say what is the one thing I'm going to look at to diagnose market power, it's withholding. It's capacity that's not being used when it would look like a competitive, price-taking firm would use

it.

There may be reasons why it's not being used, which you then have to explore. But that's the first thing you look at.

MR. HELMAN: I have a question about structural screens that you might be using on an ex ante basis. That's been an option that's been discussed now at a number of ISOs.

So far, what we've done actually in a number of cases is, we've used ISO reliability criteria as a trigger for price caps; i.e., for example in New England, when you call an Opt 4 condition by the ISO, that triggers a price cap. And I think in California, mitigation was triggered also by reliability criteria.

That's sort of a proxy for what you would consider a type of a structural ex ante screen. Do you think that this marriage of reliability criteria and market outcomes is a good thing? What kind of directions can we take in the future to do structural screening ahead of when the market clears and have that have some mitigating screening impact on the market?

PROFESSOR JOSKOW: Let me take a quick crack at that both for New England and California.

Again we have to remember, what was the problem? The problem that I think you thought you had was that as

demand grew and the market approached its full capacity -- that is, where supply became very inelastic -- it was under those conditions that you were concerned that market power could be more easily exercised, in part because there was no demand elasticity. And we know in almost any non-cooperative oligopoly model, market power is inversely related to the elasticity of demand.

Therefore I interpreted your rules as trying to find a proxy for, when are we getting close to the point when there's going to be a market power problem? And when we get to that point, what we're going to do is, we're going to trigger mitigation. I would add to that -- until the day when the underlying structural problems that led to this situation are remedied.

Now, in California, at least in May and June of 2001, this was a more serious problem, because the contract cover had not yet been put in place. So there was a much larger amount of capacity, of demand that was not covered by long-term fixed-price contracts. And the incentives to exercise market power in that regime were much more significant.

In New England, where there was much more contract coverage historically -- and for most companies that had load-serving obligations prior to the summer were covered -- the incentives to exercise market power were much

less serious. You put in a much higher price cap in New England compared to California, and there I would think that the primary structural problem is demand elasticity. When that is fixed, I think you can relax much more.

That was my understanding of the Commission's rationale for the mitigation measures that it put in. To me it made quite a bit of sense.

MR. HELMAN: One other follow-on question, Dave, based on your operational experience in these systems.

What percentage of generation resources, due either to occasional market power or due to their function in the system on the some-must-run basis -- what percentage of resources will basically always need some level of mitigation, even if the remainder of the market is competitive?

MR. PATTON: That's a good question. I'm not sure I can put a percentage on it. But I would agree with the premise of the question, which is that in the long run, it's not at all clear that the equilibrium -- if there's no market power, then mitigation is unnecessary.

But one thing I would say about your structural idea is, when you look at the performance of these markets, and the fact that prices are relatively insensitive until you get to the peak, it turns out that the peak is absolutely critical to price that correctly. We're focused

on prices that are too high. It's every bit as damaging to a market to price too low when you get in those circumstances, and that actually occurred this summer. And there will be a study coming to you relatively shortly on that, because that destroys a key component of the signals that you're sending, both to the demand side and to generators to build.

In any event, one component of pricing appropriately at the peak is, what do you do when you're short, when you can't meet your reserve obligations and energy? One argument you could make is, the price ought to be set -- well, what happens in normal markets when you get into that situation is, the demand side will ration the supply. That doesn't happen in this market, and for that reason we have bid caps that are necessary for the short term.

I would urge the Commission not to think of the bid caps as a market power mitigation measure. What it is is a proxy for how you set prices when you get into those circumstances when you can't meet your reserve and your energy obligations. So having a bid cap that's linked to the reliability situations makes some sense, because it's those reliability circumstances that will kick in when you get into situations where you can't meet your reserve and energy obligations.

But in terms of market power mitigation, that's a somewhat different issue. The question there is, is there conduct that takes you to those circumstances when you shouldn't be there? And that's why you can't rely on the bid caps. Because what you're saying, if you look at the supply situation, prices will generally increase relatively slowly to $100, $120; and then, it will increase rapidly to the cap. Prices ought to be $100, and you rely only on a cap as your mitigation, you'll end up not doing a very effective job of preventing the market power transfers that you're worried about.

PROFESSOR JOSKOW: I actually -- there was a question this morning of whether the efforts you made in California were of no value. I think it's important to recognize that there are a lot of moving parts in all these systems, and both the California crisis and what's happened since then depend on a lot of variables interacting with one another.

I think that the mitigation program that you put in, which I hope is a temporary program and that they fix their problems out there, did have an important effect on supplier behavior -- not so much the price, the bid caps themselves, but the requirement to offer supplies to the market if they hadn't been pre-contracted, the incentive to contract forward and be in the forward markets, so that you

didn't get stuck in the real-time market, and the moral suasion from this Commission that this was a problem of concern.

I think that suppliers in California this summer were on their best behavior. I think the fact that gas prices went down and demand went down for a variety of reasons, and they finally raised retail prices, also helped a lot. But I don't think that you should feel that your efforts there were not of some importance.

On the other hand, I don't think that the lesson to learn from this is that this is what you should be doing everywhere whenever there's a problem. I think we need to keep working with the folks in California to solve the real, underlying problems in that market, and not have them rely as a crutch on I think what you made clear was a temporary mitigation mechanism, which I think was really necessary to calm things down out there.

MR. COWART: I'm going to be real quick and just say, I think that what you just heard from Paul Joskow was excellent.

MR. MILLER: The transition, I think, is kind of a key thing in terms of when you mitigate. Because, Professor Hogan, you were talking about the possibility of not applying mitigation to new generation, so that you do incent the new generation.

I think also, for people to want to build generation and believe that they want to build it there, and believe that this will be a good market, you've also got to have measures that will sort of end, and people can know when they're going to end.

Let's take California as a classic example. Because of the changing nature of regulatory bodies, it's hard to say this will end in two years, and always make it stick. Is there some sort of other transition mechanism you can say -- in the sort of mitigation that we've seen, for example, in California -- will end?

PROFESSOR HOGAN: I think the bid cap idea is an example of something that sort of has an inherent end to it in and of itself if you get entry. So it you start getting entry and you have new players in there, and you start getting the Cowart plan put in place, and we've got demand-side participation so you have market clearing prices which are set by demand oftentimes, not just by the bid caps that are put in there -- pretty soon, the bid caps become redundant for the existing plants, and they just don't matter any more.

They're getting the market clearing price. The fact that they might have a bid cap on what they can bid doesn't prevent them from getting that higher market clearing price when that's what the competitive market

clearing price is. So they kind of fade away. Their impact tends to fade away naturally.

If you say you're not going to put in demand side, if you're not going to exempt the new plants from this, then you're stuck with this. It's going to be there forever, and you don't get the demand-side response, and you don't get the new entry.

So I was just trying to describe something which I thought had the character that, if it worked the way you intend, then it naturally becomes -- it either goes away or it doesn't have a termination date, but its impact starts to become less and less and less over time, as opposed to something which constantly requires intervention. And then you have to figure out how to get out of it.

MR. KELLY: Bill, let me follow up on that.

If you have a price at an hour that doesn't pass the test, whether it's the just and reasonable test or the test that it's set by a well-designed market, how can you tell one generator it can't charge it but another generator, because it's a new entrant, that it can charge it?

PROFESSOR HOGAN: I don't think -- that's not consistent with what I was saying.

What I mean when I say, bid caps, is if you take what David Patton was talking about, where we take some benchmark -- you do the thing you didn't want to do in

California, which is to analyze every plant, figure out a number for every plant. But I think you do need one for every plant, and then you say, for this plant we might think your variable costs are 60 bucks. You can't bid more than $82. Or, your bids during competitive periods were $75, so you can't bid more than $85, or something like that.

Whatever these rules are, I don't think they'd have to be too precise. That's all they can bid. Now, somebody else, a demander, can come in and say, if the price is more than $150, I don't want it. And other people who are small enough so that you don't worry about them exercising market power are not constrained by the bid cap, and then the market clearing price turns out to be $103. This plant gets the $103. It doesn't get $82, it gets $103.

What you're doing is targeting the people that you think have market power, and you're not targeting the ones that you don't think have market power. And you want that operated as much as you can like a competitive market, and you have a mechanism that's consistent with it. That's what I'm talking about.

PROFESSOR JOSKOW: Let me just indicate, Bill had a very nice little picture that he was tracing out. It shows how, if you have a demand side for the market during very tight supply situations, when you go from stage 1 to stage 2 to stage 3, where they've got to start turning off

suppliers to buyers -- if you've got buyers in there with demand bids saying, I'll reduce my consumption when it gets up to $150, and another when it gets up to $300, and another when it gets up to $500, they become the marginal bidders. They determine the market clearing price, not the suppliers.

When you get to that point, all the bid rules do is essentially require that the supplies be offered to the market, to end up not determining the market clearing price. That's where we really want to get to, for managing scarce capacity during high demand periods.

MR. O'NEILL: I just want to get a quick clarification from Bill.

When you say, we think your marginal cost is $60 but we'll allow you to bid $82, the reason why we allow them to bid $82 is because we could have gotten the $60 wrong, or because it's just good to allow people to bid over the marginal cost?

PROFESSOR HOGAN: It's mostly because you could have gotten $60 wrong, and I think, particularly as David pointed out, this is not a perfect solution, and it's a hard problem. And it's especially difficult on the tails of these distributions when they're running at very high utilization rates. It might be that that's even too low.

But the procedure is basically trying to elicit from a market process what those caps ought to be, as is

done in New York. So it strikes me that it has a lot of appeal to it. And putting in a little margin for error -- because what we're trying to do is prevent them from walking away in one hour with the gross state product of California.

(Laughter.)

PROFESSOR HOGAN: We're not trying to get this precisely right, and I think that's the way to think about it.

MR. PATTON: Let me add one distinction. Because I think when you talk about the benchmarking, there is one very important thing is whether you're going to deal with variable costs or not. And Bill alluded to the appeal of the New York system.

One thing that trust in the market and allowing the market to send you a signal, and what the marginal costs of the generators does for you is, it gives you a benchmark for the resources where variable costs are not a good measure of their marginal costs. And I'll give you a good example of that.

In New York, one of the conclusions we found in the annual report that we forwarded to you is that, looking at generators that were on the system in the New York Power Pool days versus how they operate under today's competitive system, that there's a range depending on how you measure. One and a half to three gigawatts of capacity coming from

plants now that wasn't there in the New York Power Pool -- this has nothing to do with forced outages. It's only when those plants are on line, how much they offer.

And where you see this increase in capacity coming from is in the emergency operating ranges of these units, where they can't sustain an operation for very long. They have a much higher risk of forced outage, and if they go out, they lose the profit on the whole rest of the plant. They likely have to take the plant down more for O&M.

And when you compute the marginal cost for that, and you attribute it to the last 10 or 15 megawatts of the plant, that cost is very, very high. It turns out when you get into peak circumstances and you're setting those prices at $1,000, it's those resources that are the most important, not the baseload portions of the resources that continue to bid at $50.

So number one, it makes it far easier to deal with to not deal with variable costs. You don't have to argue with generators about the variable costs they gave you, whether they're wrong or they're not wrong. The nice thing is, they can't escape the competitive pressure that the market puts on them in the other 98 percent of the hours, and the benchmarks we get are very close to variable cost for most of the resources.

But one important distinction between New York

and the example that Bill described in terms of the bid caps is the price impact test. We have the capability to determine in real time what the price impacts of the bid are. So you have the choice of applying this sort of benchmark test and a generator-specific bid cap only when there's a price effect, which may be four times a year or twice a year -- I mean, it's not much more than that -- versus having it apply in 8,760 hours a year.

To the extent you believe that your benchmark may not capture all the reasons why their bids fluctuate, and they fluctuate quite a bit in periods where there's no price impact at all, you don't want the bid cap to constrain how they're bidding.

MR. HALL: I want to make one comment.

One concern I have relative to the mitigation plan in California -- and I generally agree with what Professor Joskow said about his perspective on that -- certainly, some of that's predicated on new supply coming in. The question is, will it sufficiently get there in time so that it syncs up with the termination of the mitigation plan?

We talked a lot about what triggers a mitigation plan, and we talked much about criteria that end a mitigation plan. Is it the basic fundamentals? Is it triggers around how much of the load is still exposed to the

spot market? There is now an active, robust bilateral market, and now you've got a small percentage of your load exposed to the spot market. So I think we need to think on the back end as well as the front end when these kind of measures have to be in place, and I'm not certain that in some cases sufficient supply will get built in an appropriate amount of time.

MR. MILLER: That's a question I'd like to ask. Obviously, California presented a real problem, because so much -- nearly 80 percent -- of the load was exposed in the short-term market. If you mitigate in the spot market a fair amount, is it possible that you can create incentives for people to be overexposed, or to create inefficiencies in the way that they're going to procure their energy?

MR. PATTON: You're looking at me, so I'll assume you were asking me.

MR. MILLER: I saw you emphatically disagree.

MR. PATTON: I'm not sure whether it was emphatic, but no, I don't think that's the case. And the reason that's not the case is the pricing of all markets is going to be linked to the spot market.

I think you need to be sure that you're not depressing prices in the spot market, and you need to be very careful in terms of how you structure your mitigation. That's not the case. But if that's not the case, so that

you're addressing market power, and substantial market power at that, not all market power, then the performance of the spot market having been disciplined by that will ripple through the forward markets, because they're going to respond very, very quickly to any changes in the spot market.

So to the extent the spot market becomes more attractive in terms of pricing, forward contracts also will become more attractive.

MR. NORDHAUS: I think it's a little more complicated than that, particularly in the California situation. You had a lower price cap in the real time market than the day ahead market, and so you had all kinds of gaming behavior that resulted in some periods in the real time market having up to 30 percent of the transactions.

I think that careful attention has to be paid. First of all, I think the point was made earlier: you ought to mitigate not only in the real time market, but in the day ahead market. Have the same rules in both markets.

Secondly, you may end up having some need for some policies that make it painful to overrely, certainly, on the real time market and perhaps also on the day ahead market. Those have to be carefully done, because if it's simply raising the price a generator can collect in the real time market, then the generator has incentives to push the

buyer into the real time market.

So you need a system, I think, that penalizes the buyer for overreliance on the spot markets, but doesn't give the premium the buyer has to pay for that overreliance to the generator. It should go to all loads that comply with the rules.

PROFESSOR JOSKOW: I think this is one of the lessons that maybe has been missed in California. It was really a very bad mistake to put the price cap on the real time market but not to have a symmetrical price cap on the day ahead market. It naturally led to arbitrage between the two markets, so there's no reason to buy in the day ahead market at more than the price cap in the real time market.

Everyone pretended that the day ahead market had no physical significance, that it was just a forward market. But in fact, it had physical significance. The result was the ISO then had to go and buy more ancillary services, more operating reserves, more balancing energy. But they didn't have a forward market for balancing energy, so they had to do that in an hour ahead market or an out of market market.

So the ineffective use of a price cap really caused very, very major disincentives, both for contracting -- but it also had costly implications for operation. That problem, I think, would have been eliminated if the ISO had been operating both the day ahead market for energy and

ancillary services, as well as the balancing markets. It never would have occurred to anyone to put one price cap on one and no price cap, or one price cap 20 times higher, on the other.

I don't know if Bill agrees with that, but it occurs to me that that's a lesson learned from California that I haven't yet put in my paper on this subject, and I think I will.

PROFESSOR HOGAN: I certainly agree with that, I think, as a general principle that you should have consistency in these markets, the same rules. What people schedule the day ahead ought to be consistent with what they think is going to happen in real time, and vice versa.

I don't agree with Bob that you want to go out and penalize people for using either one of these markets. I think the whole point of it is to let the market decide whether or not they want to contract forward. Do they want to buy day ahead, do they want to go to the real time market or not?

And if you get the design right, you have the standard market design that I talked about before, and I think you can just let them decide, and they'll be just fine, and you don't have to worry about it. The problem you get into is when you fail to recognize it's a package, and that these pieces all have to fit together. And you do

something like, well, why don't we tweak this one and then nothing will happen, right? No.

One thing we know about these markets is that the assumption we made in restructuring, that people would respond to incentives, has been validated in the extreme. You give them incentives like that, and they'll respond real quickly.

MR. KELLY: Carry that one step further.

Suppose you have an interconnection like the Eastern Interconnection, with more than one ITO, and each adopts its own price mitigation mechanism.

Let's say at the time when several nukes are out, there's a heat wave, and demand is high everywhere. Let's suppose that the various RTOs adopted mitigation, and one did a price cap approach and the other did a proxy price approach, and the other did something else. Wouldn't that set up arbitrage opportunities? Wouldn't they all have to be the same price mitigation in the three RTOs and the interconnection?

PROFESSOR HOGAN: They'd have to be essentially the same thing. That's what I said earlier. I think you'd have to have them just because of that. You saw the problems in California. So if you have a price cap that's $500 in one market and a thousand in another, it doesn't matter whether they're separated in time or

geography. You're going to have a problem associated with that, so you have to make them consistent.

That's the problem you ran into in California, when you first tried to just cap prices in California, and then everything -- the rest of the west was serving as a place to park the power, and it was going around the system you were setting up. I'm not sure that was all bad, but that's another matter in terms of the effectiveness of mitigating those prices.

So you have to extend it to the whole west, and I think that was a correct judgment, and I think the same problem applies here. I wouldn't go so far as to say that I know enough about this as to be sure that you have to have exactly the same rules, bid caps for thermal plants and no bid caps for energy-limited facilities, and the whole list of all those kinds of things. But I think that you have to look at them very carefully to make sure that they're consistent. And the obvious things -- if there's a price cap here and a price cap there, they should be the same number.

PROFESSOR JOSKOW: I think there are differences between the RTOs, however many there are, and that they have very similar market design platforms. I think inevitably you're going to want to have at least a process for market monitoring that's going to be the same. Since there may

still be structural differences -- for example, the extent of retail competition, how much vertical integration there is, what the retail commitments are -- you may have different market power problems.

But I think those messages, if you're going to have different market power mitigation responses, you've got to think through what arbitrage opportunities you're creating that may lead to undesirable effects. As a consequence of that, it may be one problem's in Florida and the other's in Maine, and it's not going to make any difference. But if it's New York and New England, it's likely to make a difference.

MR. PATTON: Let me add, because to the casual observer it will appear that my answer was completely contradictory to Drs. Hogan and Joskow, and I would hate for that to be an impression that people walk away with.

I think you have to be very careful what you're thinking about in terms of what the mitigation is, and this goes back to the very first point I made, which is that it's preferable that mitigation not artificially constrain prices, but effectively address withholding. Those are two very different things.

The problem is so serious that you have to impose a price cap, which does artificially constrain prices. Then you get this sort of arbitrage can happen, both

intertemporally -- between forward markets and the spot market -- or geographically.

It's a much different thing when you talk about a generator-specific mitigation to deal with withholding. Because if that's in place, for example in New York, and let's imagine that it wasn't in place in an adjacent market where, for some reason, it wasn't deemed necessary, the fact that you have effectively mitigated and prevented economic withholding in New York does not prevent prices in New York from rising, because the market is still going to clear at the market clearing level assuming you're not mitigating a significant amount of resources that have very high costs. The prices will keep rising until you have arbitrage between those two.

So the distinction there is between mitigation, where you have administratively constrained the market, versus mitigation that is intended to address withholding but allows the market to continue to function.

MR. GARVEY: My comment sort of goes with, I hear a lot about New England and the Atlantic seaboard, and I hear a lot about California. Well, whole portions of this country aren't in either of those fixes --

(Laughter.)

MR. GARVEY: -- binds, or situations. And while I'm very supportive of this Commission moving forward on RTO

rules and my message is sort of, go get it done, but simultaneously I think what Mr. Joskow just said moments ago, understanding that there are still states who are not going to retail competition, but are running from retail competition based on some of the examples. And we're still going to be vertically integrated. We're still going to have obligations. We're still going to have, actually, authority to impose generation, siting and building commitments.

Those are the kinds of things you need to make sure get factored into this rulemaking. These rules you want to pursue shouldn't be fighting the last war. They need to be pursuing the future, and to make sure that MISO and the Southwest Power Pool fit in; to make sure the Alliance works together, and all those kinds of things.

I think that's really important as you think about this.

PROFESSOR JOSKOW: I'd just like to make a comment about that.

I respect that. I can see why your state and other states might think, after the events of the last two years, that maybe you ought to wait to see if you can figure out how it's all going to work. But I see this as a real problem for the country, not having every state -- or, many states having very different approaches to industry

restructuring and competition.

I think that vertical integration between transmission and generation is still a potential problem. I think matching up states that want to do it the old way and states that want to do it the new way on the same network is a problem. I think it may not be a fatal set of problems, but it's going to create major challenges for this Commission.

No other country has done it this way. Every other country has come up with a policy, and they've restructured. And it's going to really, I think, make our job harder to try to accommodate the diversity that seems to be emerging around the country. And I think the RTOs are going to be an important piece of the solution by at least enforcing common wholesale market design structures, transmission access structures, market monitoring structures, to try to accommodate this diversity. I think it's a real challenge.

MR. GARVEY: I think Mr. Joskow's correct, and I personally agree with him. However, my governor and my legislature determine those things, not me.

(Laughter.)

PROFESSOR JOSKOW: I don't want a fight with your governor.

(Laughter.)

MR. GARVEY: We've had very interesting meetings with him. But I think that's a playing field that we need to understand that we're playing on, and you heard yesterday some non-conforming sentiments from an array of commissioners.

(Laughter.)

COMMISSIONER BROWNELL: Can I just build on this, though, actually?

Professor Joskow, you kind of stole my thunder here, because this has been a week of really smart people, and we're ending with a great panel of really, really smart people. So I'm going to deviate from the subject at hand for a minute and ask each of you to comment.

The majority of people we have heard this week -- the vast majority, I might add -- have said: move forward, do this. It's important. Get this done.

A very small minority, with all due respect to some of the dissenters, said: don't do it. Wait and get this, do this study, do this, do this.

I'd like to know what you all think the price we're really going to pay for waiting -- or should we wait, and how long should we wait? We see the price growing every day, as I think you alluded to. But let's have the benefit of having the really smart people tell us that, as kind of a summary to the end of the week.

MR. COWART: I'd hesitate, with that intro, to start, but I will anyway.

I think I'm going to echo what you heard from Ed Garvey, and that is that moving forward with the creation of sufficiently large RTOs that can build strong, workable wholesale markets is a very important initiative for the Commission. I would have supported it when I was a state commissioner, and I will support it now.

So moving forward, if that's what you mean, I endorse fully. I also have to pause for a moment and say, make sure that you're building market structures that are complete, and that you're not rushing to build markets that in fact you're going to want to have to go around and make major fixes to later. And you know my views about building in demand side and making sure while you're at it, by the way, that your view of that is not a narrow one. Your view of what's needed to reveal value in the demand side to distributed resources and customer-controlled resources is a broad one.

Because there are plenty of places in the actions that you're going to be taking where you're going to need to strip out barriers to the demand side. It's not just real-time meters in the customers' homes.

That said, I think you're headed in the right direction, and I would encourage you to keep it up. You

also need to recognize that a large number of states are not going to be creating retail access. I actually think that's fine. I think that you can create RTOs that work with that. In fact, if you do a good job, as time moves on those states will change their minds.

MR. GARVEY: I don't know how to answer your question in some kind of quantifiable way. But my state is the home of Excel Energy. It's like the fourth, fifth, or sixth-largest power and energy company in the country. Yet in electricity, they only own 3 percent of market share.

This is an industry that's going to have to make dramatic changes in order to basically ramp up and meet demand, and to continue to provide the good services. And if we don't start providing some stability to this industry, in terms of how we regulate them and how we oversee them, they're going to be paralyzed. They're not going to continue to provide the good services, and they're being incented to do exactly what they're doing: cut back on the quality of service, maybe or maybe not disaggregate, maybe or maybe not move generation and transmission into unregulated entities, where they may or may not get better returns. And we're going to be left holding the bag as regulators, and the consumers are going to be the people who end up at the end of the day.

That's all I can say, unless there's some kind of

stability to this industry.

MR. HALL: Not forcing full-scale divestitures, allowing active bilateral markets, I think, is the key to beginning moving through that transition. I offered the generator's perspective, and actually Duke and other companies want to invest in the kind of formats that you're talking about.

So a delay in that, a slowdown in that, begins to send signals to us that, we're unsure where you want to go, and then we begin to pull back on putting needed infrastructure into the country which is very desperately needed. So we want to see the process move forward.

We're realists. We know in the early stages of the formation, there are going to be problems, and we talked a lot about the temporary solutions that could be put in place to deal with that. But we certainly don't want the uncertainty of what's happened in a couple of regions of the country to interfere with moving forward, because we really think that's the way to bring in clean, affordable electricity with companies like Duke and others. We certainly want to see it going forward.

I think the key for us is, even during the transitory phases, that we have clear standards, that the landscape doesn't change. I do I think generally fundamentally believe in standardization, because we look at

markets and we determine, based on different rules and structures, where we want to invest. So if you create different standards around the regions, then that's going to incent us to maybe go to one region when it's desperately needed in here.

So I think generally I do believe in standardization. Obviously, standardization can breed complacency, too, and where you have some freedom for RTOs to operate within certain boundaries, it does produce creativity and those sorts of things.

But generally, yes, we want to see it moved forward. We think that's the right signal for companies like Duke to invest.

PROFESSOR HOGAN: Commissioner Brownell, I think it's an excellent question.

As you know from previous conversations, I've been quite worried for awhile that we're in the worst of all possible worlds at the moment. The status quo is the most dangerous. We've opened up, we've given a lot of people choice, we've separated a lot of these companies, we've created these open access tariffs, yet we don't have the mechanism to make that system actually work, and we also don't have the protection of everything being nice, vertically integrated, good-old-boy monopolies that are going to solve the problems for us in the old way.

So I've been worried that time is running out, and we have to move. I think the obvious thing to do is move in the direction that you're doing. I wish you had done it years ago, but --

COMMISSIONER BROWNELL: I wasn't here.

(Laughter.)

PROFESSOR HOGAN: But I'd like to see it. I think it should be done now. I think you have to be rather prescriptive about what it is. The standard market designs that I talked about before and the consistency across regions, so that you can have these large regional markets -- and I think if you don't do it, we're running the risk of seeing problems like we saw, maybe of a slightly different character and maybe not as severe, but problems like we saw in California and elsewhere.

And if we're not going to fix that now, and we're not going to move forward and do it, and we're not going to do it with this Commission after all of the troubles that we've gone through, when are we going to do it? And if you're not going to do that, then you have a legal and professional and moral responsibility to say what you're going to do instead, because you can't just do nothing.

And if you're not going to go forward and create competitive markets and put in a reasonable standard market design, then you'd better tell us how to go back to where we

were before. And I frankly -- I've been trying to think about that. How do you go back? I don't know how to go back. I think it's really difficult at this stage.

Maybe we'll get a model for this from California, on how to go back.

(Laughter.)

CHAIRMAN WOOD: Save your brains. We're going forward. We're not going back.

(Laughter.)

PROFESSOR HOGAN: I'm with you.

There are risks in what you're doing, but I think the risks of not doing it are much greater.

PROFESSOR JOSKOW: I agree with all that. I don't think we have a choice but to move forward.

I think you've laid out a direction that makes a lot of sense to me. We're going to make mistakes, and we're going to have to learn from the mistakes and fix them as time goes by. I don't know if you've chosen the optimum number of RTOs. If you gave me a choice, I would be more focused on coming up with compatible market designs and market platforms. They may not be exactly identical, but are easily compatible, perhaps with a larger number of RTOs than you've come up with. But that's just a personal preference.

I'd go further. I'd like to see transmission

separated, either functionally or structurally, and for all load-serving entities to take transmission service on the tariffs of the RTO, and for customers to be billed for FERC-regulated transmission service so that things don't get confused with state and Senate regulation and rate-freeze programs, which I think are having unfortunate incentives for investment in transmission in some areas.

So, full steam ahead, recognizing it's a difficult task. I think if you had all the people on this panel to be on a group to help you along, my guess is that we'd do a whole lot of things right and very few things wrong. It's a great group of people here who've been giving their ideas this afternoon. Thanks.

MR. NORDHAUS: A couple of things.

One is, I think -- this is a personal view -- I think the Commission's going in the right direction. This has to be done. I have two cautionary notes.

The first is, from my fly-on-the-wall experience in California, it's very important to get the market design right before you embark on running a market. I think once you get started, it's very, very hard to untangle it. So I think that making sure that the markets work right, and you've got the right institutional arrangements before you direct or authorize the startup of an RTO, is quite important.

The second is that I think the Commission has a very important leadership role here, and that is: its role is more than just directing actors out there to take particular actions; but also, convincing them that the direction the Commission thinks they ought to go is the right direction, and in their interest.

If the Commission is unable to do that, it seems to me that you're going to end up plunged into a thicket of litigation that is going to slow you up considerably more than if you took the time to get everybody on board, or as many on board as you think you can, anyway. And I see that that's one of the reasons the Commission's undertaken this particular exercise, taken the time to meet with the state commissioners.

But I think the leadership role here is very, very important, because without successful leadership, the litigation exposure from determined opponents of what the Commission wants to do can be very expensive, disruptive and time-consuming. So I'd urge you all to try as best you can to develop a consensus by your policies, as well as making sure you're comfortable that they're going to work in practice once they're put in place.

MR. PATTON: I want to echo most of what the panel has said here, and congratulate the Commission for a very positive step.

What we've seen is that we've had now operating power markets, wholesale power markets, that have employed what were at the time relatively new and novel ideas. And I think at this point in time and where we stand with the industry, taking the time to say, what have we learned and can we standardize on that is very important. Because we've talked a lot about having the right rules, having the right structure, and how that influences the outcomes of the market.

Even small problems with how you design the markets, or how you set up your rules, can have dramatic effects under certain circumstances. So that's extremely important, and I think the long-term goals the Commission has set forth are entirely sound. The one thing that I would add in terms of advice in moving in this direction is, I think I echo what Bill has said, which is that there is a significant amount of action that's necessary right now. And where you have gone with the RTO initiative is critical. And in my mind, that sets a long-term goal that's going to allow the industry to be sound once we have these RTOs set up, and we have some standardization in the market designs and how we monitor and mitigate the markets when necessary.

In the meantime, until we get these RTOs set up, we need to understand that there are functioning markets that have critical needs over the next year or two. The one

thing that I think would be inadvisable is to overlook those short-term needs and focus only on the long term, because I think you can meet some of those short-term needs and mitigate the risks that we're seeing over the next year or two in the process of putting in place the long-term solution.

COMMISSIONER MASSEY: Great panel, great clean-up panel. Thank you for all your time and attention.

CHAIRMAN WOOD: Thank you all. It was a great way to end a week.

Just for future reference, dear colleagues, this ain't the last. It's probably the last that we'll do five straight days in a row.

(Laughter.)

CHAIRMAN WOOD: It's the last one we'll do this year that's five days in a row.

I want to thank Shelton for his leadership. You did a great job. Thank all our bright staff for the smart questions. You all have a good trip home. We will be in touch.

Meeting adjourned.

(Whereupon, at 4:40 p.m., the meeting was adjourned.)